

## GENERAL INFORMATION

### DVD-Video Recorders: DVDR1000, DVDR150, & DVDR1500 Manual 2010



### Introduction

The Philips DVD Recorder is a Recorder and player for digital video discs, with a two-way compatibility to the universal DVD Video standard. This means that:

- existing pre-recorded DVD Video discs can play on these systems and
- recordings, made on these systems, can play on existing DVD Video players and DVD-ROM drives.

### Product Appearance



**DVDR1000 /171**



**DVDR1500 /171**

The DVDR150 is the same Recorder as the DVDR1500. The only difference between the 2 systems lies in the Remote Transmitters bundled with the units. Instead of the pronto remote supplied with the DVDR1500, the DVDR150 is supplied with the RC2051/01 which is also the same transmitter supplied with the DVDR1000.

### Technical Specifications

[Display Technical Specifications 1](#)

[Display Technical Specifications 2](#)

# Dagnostic Software and Faultfinding Trees

Due to the complexity of the DVD recorder, the time to find a defect in the recorder can become long. To reduce this time, the recorder has been equipped with Diagnostic and Service software (DS). The DS offers functionality to diagnose the DVDR hardware and tests the following:

- Interconnections between components
- Accessibility of components
- Functionality of the audio and video paths

This functionality can be accessed via several interfaces:

1. End user/Dealer script interface
2. Player script interface
3. Menu and command interface

## 5.1 End User/Dealer Script Interface

### 5.1.1 Description

The End user/Dealer script interface gives a diagnosis on a stand alone DVD recorder; no other equipment is needed. During this mode, a number of hardware tests (nuclei) are automatically executed to check if the recorder is faulty. The diagnosis is simply a "fail" or "pass" message. If the message "FAIL" appears on the display, there is apparently a failure in the recorder. If the message "PASS" appears, the nuclei in this mode have been executed successfully. There can be still a failure in the recorder because the nuclei in this mode don't cover the complete functionality of the recorder.

### 5.1.2 Contents

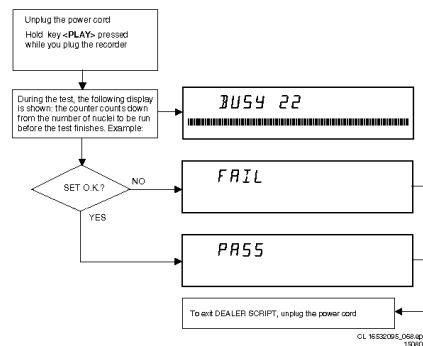


Figure 5-1

The End use/Dealer script executes all diagnostic nuclei that do not need any user interaction and are meaningful on a standalone DVD recorder. The nuclei called in the End user/Dealer script are the following:

22	HostdSdramWrR:	check of all memory locations of the 4MB SDRAMs
21	HostdDramWrR:	check of all the DRAMS
20	HostdI2cNvram:	check of the data line and the clock line of the I2C bus between the host decoder and NVRAM
19	SAA711XI2c:	checks the interface between the host I2C controller and the Video Input Processor SAA7118
18	VideoEncI2c:	checks the interface between the host I2C controller and the Video Encoder SAA6750

22	HostdSdramWrR:	check of all memory locations of the 4MB SDRAMs
17	AudioEncI2c:	checks the I2C connection between the host decoder and the audio encoder
16	AudioEncAccess:	this nucleus tests the HIO8 interface lines between the host decoder and the audio encoder
15	AudioEncSramAccess:	check of the access of the SRAM by the audio encoder (address and data lines)
14	AudioEncSramWrR:	tests the SRAM connected to the audio encoder
13	AudioEncInterrupt:	tests the interrupt line between the host decoder and the audio encoder
12	VsmAccess:	checks the data and address bus and the interrupt register of the VSM
11	VsmInterrupt:	checks both interrupt lines between the VSM and the host decoder
10	VsmSdramWrR:	tests the entire SDRAM of the VSM
9	Clock11_289MHz:	switches the A_CLK of the micro clock to 11.2896 MHz
8	Clock12_288MHz:	switches the A_CLK of the micro clock to 12.288 MHz
7	BeS2Bengine:	checks the S2B interface with the Basic Engine by sending an echo command
6	DisplayEcho:	checks the interface between the host processor and the slave processor on the display board
5	AnalogueEcho:	checks the interface between the host processor and the microprocessor on the analogue board
4	AnalogueNvram:	checks the NVRAM on the analogue board
3	AnalogueTuner:	checks whether the tuner on the analogue board is accessible
2	LoopAudioUser-Dealer:	tests the components on the audio signal path Host decoder Analog board Audio encoder VSM
1	LoopVideoUser-Dealer:	tests the components on the video signal path VIP VSM Host decoder

## 5.2 Player Script Interface

### 5.2.1 Description

The Player script will give the opportunity to perform a test that will determine which of the DVD recorder's modules are faulty, to read the error log and to perform an endurance loop test. To successfully perform the tests, the DVD recorder must be connected to a TV set.

To be able to check results of certain nuclei, the player script expects some interaction of the user (i.e. to approve a test picture or a test sound). Some nuclei (e.g. nuclei that test

functionality of the DVDR module) require that a DVD+RW disc is inserted.

Only tests within the scope of the diagnostic software will be executed hence only faults within this scope can be detected.

## 5.2.2 Structure of the Player Script

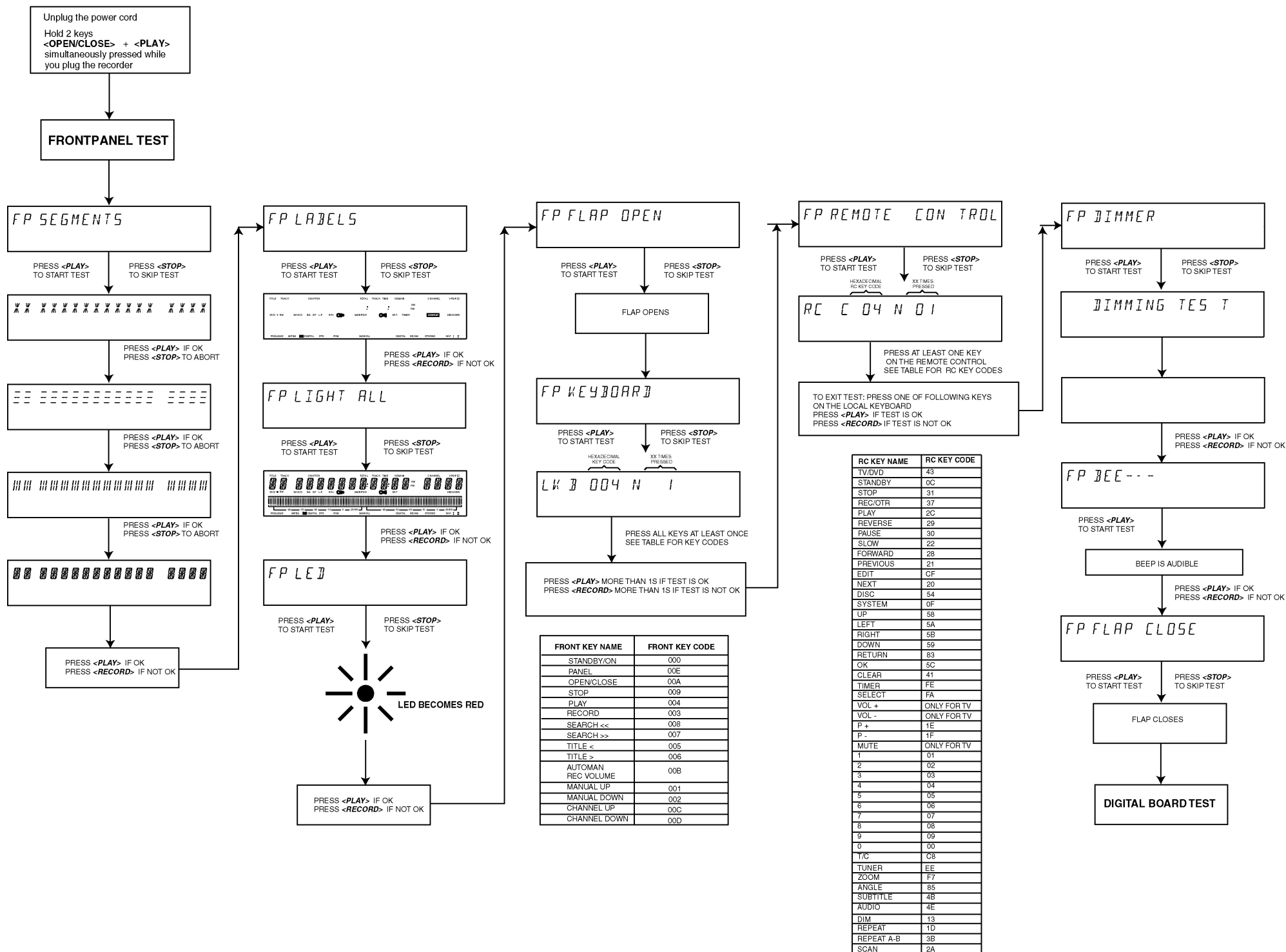
The player script consists of a set of nuclei testing the hardware modules in the DVD recorder: the Display PWB, the Digital PWB, the Analogue In/Out PWB and the DVDR module.

Nuclei run by the player test need some user interaction; in the next table this interaction is described. The player test is done in two phases:

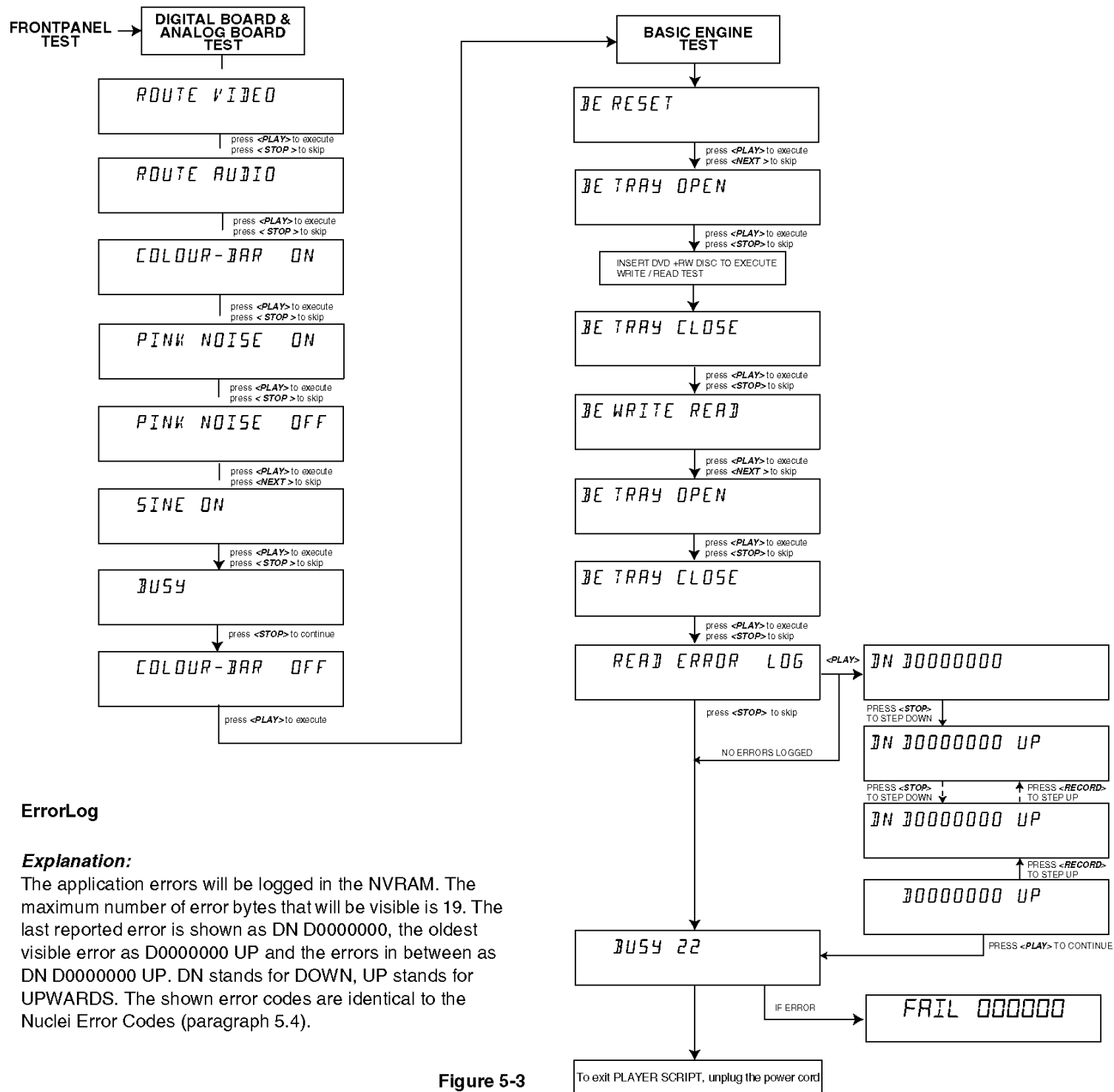
Interactive tests: this part of the player test depends strongly on user interaction and input to determine nucleus results and to progress through the full test. Reading the error log information can be useful to determine any errors that occurred recently during normal operation of the DVD player.

The loop test will perform the same nuclei as the dealer test, but it will loop through the list of nuclei indefinitely.

STEP	DESCRIPTION	NUCLEUS
1	Press <b>OPEN/CLOSE</b> and <b>PLAY</b> at the same time and <b>POWER ON</b> the recorder to start the playerscript	2
2	The local display shows <b>FPSEGMENTS</b> . Press <b>PLAY</b> to start the test. First the <i>starburst pattern</i> is lit, then the <i>horizontal segments</i> are lit, followed by the <i>vertical segments</i> and the last test is <i>light all segments</i> test. After each of the 4 tests the user has to confirm that the correct pattern was lit. Press <b>PLAY</b> to confirm that the correct pattern was lit (four times if the <b>FPSEGMENTS</b> test was successful). Press <b>RECORD</b> to indicate that the correct pattern was not successfully lit. Press <b>STOP</b> to skip this nucleus.	502
3	The local display shows <b>FPLABELS</b> . Press <b>PLAY</b> to start the test. Press <b>PLAY</b> to confirm that all labels are lit. Press <b>RECORD</b> to indicate that not all labels are lit. Press <b>STOP</b> to skip this nucleus.	503
4	The local display shows <b>FLIGHT ALL</b> . Press <b>PLAY</b> to start the test. Press <b>PLAY</b> to confirm that everything is lit. Press <b>RECORD</b> to indicate that not all patterns are lit. Press <b>STOP</b> to skip this nucleus.	520
5	The local display shows <b>FPLED</b> . Press <b>PLAY</b> to start the test. Press <b>PLAY</b> to confirm that the LEDs are lit. Press <b>RECORD</b> to indicate that the LEDs are not lit. Press <b>STOP</b> to skip this nucleus.	504
6	The local display shows <b>FFLAP OPEN</b> . Press <b>PLAY</b> to start the test. Press <b>PLAY</b> to confirm that the flap has opened. Press <b>RECORD</b> to indicate that the flap did not open. Press <b>STOP</b> to skip this nucleus.	522
7	The local display shows <b>FPKEYBOARD</b> . Press <b>PLAY</b> to start the test. Attention! all keys have to be pressed to get a positive result! Press <b>PLAY</b> for more than one second to confirm that all the keys were pressed and shown on the local display. If not all the keys were pressed, a <b>FAIL</b> message will appear on the local display. Press <b>RECORD</b> for more than one second to indicate that not all keys were pressed and shown on the local display. Press <b>STOP</b> for more than one second to skip this nucleus.	505
8	The local display shows <b>FREMOTE CONTROL</b> . Press <b>PLAY</b> to start the test. Press <b>PLAY</b> to confirm that a key on the remote control was pressed and shown on the local display. Only one key has to be pressed to get a successful result. Press <b>RECORD</b> to indicate that the key on the remote control was pressed but not shown on the local display. Press <b>STOP</b> to skip this nucleus.	506
9	The local display shows <b>FPDIMMER</b> . Press <b>PLAY</b> to start the test. Press <b>PLAY</b> to confirm that the text on the local display was dimmed. Press <b>RECORD</b> to indicate that the text on the local display was not dimmed. Press <b>STOP</b> to skip this nucleus.	513
10	The local display shows <b>FPBEEPER</b> . Press <b>PLAY</b> to start the test. Press <b>PLAY</b> to confirm that the beeper on the front panel sounded. Press <b>RECORD</b> to indicate that the beeper on the front panel did not sound. Press <b>STOP</b> to skip this nucleus.	514
11	The local display shows <b>FFLAP CLOSE</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	523
12	The local display shows <b>ROUTE VIDEO</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	712
13	The local display shows <b>ROUTE AUDIO</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	713
14	The local display shows <b>COLOUR-BAR ON</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	120
15	The local display shows <b>PINK NOISE ON</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	115
16	The local display shows <b>PINK NOISE OFF</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	116
17	The local display shows <b>SINE ON</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to stop the sine. Press <b>STOP</b> to skip this nucleus.	117
18	The local display shows <b>COLOUR-BAR OFF</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	121
19	The local display shows <b>BERESET</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	603
20	The local display shows <b>BETRAY OPEN</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	616
21	The local display shows <b>BETRAY CLOSE</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	615
22	The local display shows <b>BEWRITE READ</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	617
23	The local display shows <b>BETRAY OPEN</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	616
24	The local display shows <b>BETRAY CLOSE</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus.	615
25	The local display shows <b>READ ERRORLOG</b> . Press <b>PLAY</b> to start the test. Press <b>STOP</b> to skip this nucleus. If the player test succeeded, the <b>user/dealer script</b> will start in an endless loop. If the player test failed, the local display will display <b>FAIL</b> and the <b>error code</b>	633







### 5.2.3 ErrorLog

**Explanation:**

The application errors will be logged in the NVRAM. The maximum number of error bytes that will be visible is 19. The last reported error is shown as DN D0000000, the oldest visible error as D0000000 UP and the errors in between as DN D0000000 UP. DN stands for DOWN, UP stands for UPWARDS. The shown error codes are identical to the Nuclei Error Codes (paragraph 5.4).

**Figure 5-3**

5.2.4 Trade Mode

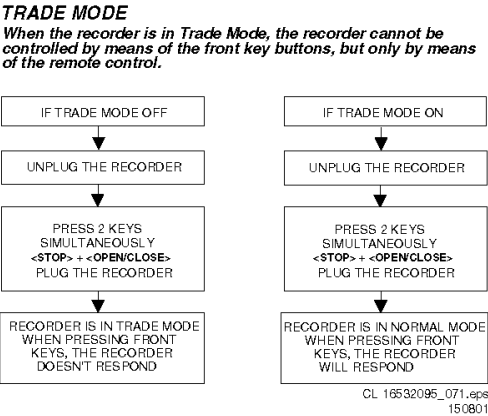


Figure 5-4

5.3 Menu and Command Mode Interface

5.3.1 Nuclei Numeration

Each nucleus has a unique number of four digits. This number is the input of the command mode.

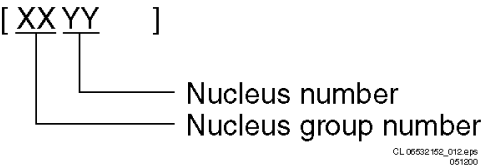


Figure 5-5

The following groups are defined:

Group number	Group name
0	Basic / Scripts
1	Host decoder (Sti5505 and memory)
2	Audio / video encoder (DVDR only)
3	VSM (DVDR only)
4	NVRAM
5	Front Panel
6	Basic Engine
7	Analogue board (DVDR only)
8	DVIO (DVDR only)
9	Loop nuclei (DVDR only)
10	Library sub nuclei (I2C nuclei)
11	User interface
12	Furore (SACD only)
13	DAC (SACD only)
14	Miscellaneous

5.3.2 Error Handling

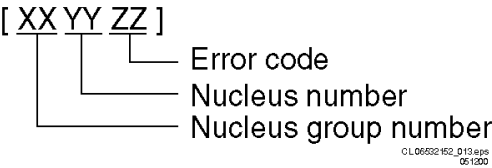


Figure 5-6

The nucleus group numbers and nucleus numbers are the same as above.

5.3.3 Command Mode Interface

**Set-Up Physical Interface Components**

Hardware required:

- Service PC
    - one free COM port on the Service PC
    - special cable to connect DVD recorder to Service PC
- The service PC must have a terminal emulation program (e.g. OS2 WarpTerminal or Procomm) installed and must have a free COM port (e.g. COM1). Activate the terminal emulation program and check that the port settings for the free COM port are: 19200 bps, 8 data bits, no parity, 1 stop bit and no flow control. The free COM port must be connected via a special cable to the RS232 port of the DVD recorder. This special cable will also connect the test pin, which is available on the connector, to ground (i.e. activate test pin).  
Code number of PC interface cable: 3122 785 90017

### Activation

Plug the recorder to the mains and the following text will appear on the screen of the terminal (program):

```
DVD Video Recorder Diagnostic Software version 48
Basic SDRAM Data bus test passed
Basic SDRAM Address bus test passed
Basic SDRAM Device test passed

[0] enu, (C) ommand or (S) 2B-Interface? [M] : @ C ↵
DD>
```

CL 16632005\_073.000  
160001

Figure 5-7

The first line indicates that the Diagnostic software has been activated and contains the version number. The next lines are the successful result of the SDRAM interconnection test and the basic SDRAM test. The last line allows the user to choose between the three possible interface forms. If pressing C has made a choice for Command Interface, the prompt ("DD>") will appear. The diagnostic software is now ready to receive commands. The commands that can be given are the numbers of the nuclei.

### Command Overview

We provide an overview of the nuclei and their numbers. This overview is preliminary and subject to modifications.

#### Host Decoder [01]

[xx yy] Number	Nuclei
100	Checksum Flash
101	Flash Write Access 1
102	Flash Write Access 2
103	Flash Write Read
104	SdRam Write Read
105	SdRam Write Read Fast
106	Dram Write Read
107	Dram Write Read Fast
108	Hardware Version
109	Mute On
110	Mute Off
115	Pink Noise On
116	Pink Noise Off
117	Sine On
118	Sine Burst 1kHz
119	Sine Burst 12kHz
120	Colour-bar On
121	Colour-bar Off
122	NvramWrR
123	NvramI2c
130	Boot Version
131	Application Version
132	Diagnostics Version
133	Download Version
134	Write / read I2C message to / from digital board

#### Audio Video Encoder [02]

[xx yy] Number	Nuclei
200	Video Encoder I2C
202	SAA711x I2C
203	Audio Encoder SRAM Access
204	Audio Encoder Access
205	Audio Encoder SRAM Write Read
206	Audio Encoder Interrupts

[xx yy] Number	Nuclei
207	Audio Encoder I2C
208	SAA7118 select input

#### VSM [03]

[xx yy] Number	Nuclei
300	Register Access
301	SDRAM Access
302	SDRAM Write Read
303	Interrupt lines
304	VSM Interconnection
305	UART

#### NVRAM [04]

[xx yy] Number	Nuclei
400	Reset
401	Read
402	Modify
403	UniqueNr Read
404	Read Error Log
407	Reset Error Log
409	Line2 Region-Code Reset
410	UniqueNr Store

#### Front Panel [05]

[xx yy] Number	Nuclei
500	Echo
501	Version
502	Segment
503	Label
504	Led
505	Keyboard
506	Remote-Control
507	Segment Starburst
508	Segment Vertical
509	Segment Horizontal
514	Beeper
515	Discbar
516	Discbar Dots
517	Vu / Grid
518	Dimmer
519	Blinking
520	Light All Segments
522	Flap Open
523	Flap Close

#### Basic Engine [06]

[xx yy] Number	Nuclei
600	S2B Pass
601	S2B Echo
602	Version
603	Reset
604	Focus On
605	Focus Off
606	Disc Motor On
607	Disc Motor Off
608	Radial On
609	Radial Off
615	Tray In
616	Tray Out
617	Write Read
618	Write Read Endless Loop
619	Selftest
620	BE Test
621	Laser Test
622	Spindle (Disc) Motor Test
623	Focus Test
624	Sledge Motor Test
625	Sledge Motor Slow
626	Tilt
627	EEPROM Read
628	EEPROM Write
629	Optimise Jitter
630	Radial ATLS Calibration
631	Get Statistics Information
632	Reset Statistics Information
633	BE Read Error Log
634	BE Reset Error Log
638	Get Self Test Result
639	Radial Initialisation

#### Analogue Board [07]

[xx yy] Number	Nuclei
700	Echo
703	Boot Version
704	Hardware Version
705	Clock Adjust
706	Tuner
707	Frequency Download
708	Data Slicer
709	Sound Processor
710	AV Selector
711	Nvram
712	Route Video
713	Route Audio
714	Validate CVBS
715	Set Slash Version
716	Application Version
717	Diagnostics Version
718	Download Version
719	Initiate Output Of Clock Reference
720	Adjust Clock reference
721	Adjust Bargraph Level
723	Revirginize Recorder
724	Flash Checksum
726	Tuner frequency selection

[xx yy] Number	Nuclei
727	Set virgin bit
728	Clear Virgin Bit
729	Write / read I2C message to / from analogue board
730	Store external presets

#### DVIO [08]

[xx yy] Number	Nuclei
800	Check DVIO board presence
801	Reset DVIO
802	DVIO Access
803	Get DVIO error codes
804	Get DVIO module Ids

#### Loop Nuclei [09]

[xx yy] Number	Nuclei
900	Digital Audio Loop
901	Audio User Dealer Loop
902	Digital Video Loop
903	Digital Video VBI Loop
904	System Video Loop
905	System Video VBI Loop
906	Video User Dealer Loop
907	Video VBI User Dealer Loop
908	System Audio Loop SCART
909	System Audio Loop CINCH
910	Digital DVIO Video Loop

#### Miscellaneous [14]

[xx yy] Number	Nuclei
1400	Clock 11.289 MHz
1401	Clock 12.288 MHz
1412	Progressive Scan I2C
1413	Progressive Scan test image on
1414	Progressive Scan test image off

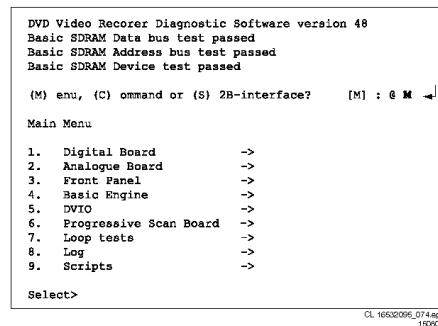
#### Scripts [00]

[xx yy] Number	Nuclei
1	UserDealer Script
2	Player Script

### 5.3.4 Menu Mode Interface

#### Activation

Plug the recorder to the mains and the following text will appear on the screen of the terminal (program):



**Figure 5-8**

The first line indicates that the Diagnostic software has been activated and contains the version number. The next lines are the successful result of the SDRAM interconnection test and the basic SDRAM test. The last line allows the user to choose between the three possible interface forms. If pressing M has made a choice for Menu Interface, the Main Menu will appear.

#### **Menu Structure**

The following menu structure is given after starting up the DVD recorder in menu mode. The symbol → indicates that the current menu choice will invoke the display of a submenu.

##### *Main Menu*

1. Digital Board →
2. Analogue Board →
3. Front Panel →
4. Basic Engine →
5. DVIO →
6. Progressive Scan Board →
7. Loop Tests →
8. Log →
9. Scripts →

##### *Digital Board Menu*

1. Host Decoder →
2. VSM →
3. AVENC →
4. NVRAM →

##### *Host Decoder Menu*

1. Flash Checksum
2. Flash1 Write Access
3. Flash2 Write Access
4. Flash Write/Read
5. Host SDRAM Write/Read
6. Host SDRAM Fast Write/Read
7. Host DRAM Write/Read
8. Host DRAM Fast Write/Read
9. I2C NVRAM
10. NVRAM Write/Read
11. Engine S2B Echo
12. Versions →
13. Audio Mute →
14. Colourbar →
15. Pink Noise →
16. Sine Generate →

##### *Digital Board Versions Menu*

1. Hardware Version
2. Bootcode version
3. Applications Version
4. Diagnostics Version

##### 5. Download Version

##### *Audio Mute Menu*

1. Audio Mute On
2. Audio Mute Off

##### *Colourbar Menu*

1. Colourbar On
2. Colourbar Off

##### *Pink Noise Menu*

1. Pink Noise On
2. Pink Noise Off

##### *Sine Generate Menu*

1. Sine On
2. Sine Burst 1kHz
3. Sine Burst 12kHz

##### *VSM Menu*

1. Register Access
2. SDRAM Access
3. VSM SDRAM Write/Read
4. Interrupt Lines
5. VSM Interconnection
6. UART

##### *AVENC Menu*

1. Video Encoder →
2. Audio Encoder →
3. Video Input Processors →

##### *Video Encoder Menu*

1. I2C Access

##### *Audio Encoder Menu*

1. I2C Access
2. Interrupt Line
3. Encoder Register Access
4. SRAM Write/Read
5. SRAM Access

##### *Video Input Processors Menu*

1. SAA711X I2C Access

##### *NVRAM Menu*

1. Read Error Log
2. Reset Error Log
3. Read DVIO Unique ID

##### *Analogue Board Menu*

1. Echo
2. Show Guide Channels
3. Video Routing
4. Audio Routing
5. Flash Checksum
6. Versions →
7. Components →
8. Re-virginize Recorder →

##### *Analogue Board Versions Menu*

1. Hardware Version
2. Bootcode version
3. Application version
4. Diagnostics version
5. Download version

##### *Analogue Components Menu*

1. Tuner
2. Data Slicer
3. Sound Processor
4. AV Selector

## 5. NVRAM

### *Analogue Board Re-virginize Menu*

1. Re-virginize Recorder
2. Set Virgin-bit
3. Clear Virgin-bit
4. Store external presets

### *Front Panel Menu*

1. Echo
2. Version
3. Flap Control →
4. Segment Test →
5. Light Labels
6. Led test
7. Keyboard test
8. Remote Control
9. Beep
10. Disc Bar
11. Disc Bar Dots
12. Vu Grid
13. Dimmer
14. Blink
15. Light All Segments

### *Flap Control Menu*

1. Open Flap
2. Close Flap

### *Segment Test Menu*

1. Starburst
2. Light Horizontal Segments
3. Light Vertical Segments
4. Light All Segments

### *Basic Engine Menu*

1. Reset
2. S2B Pass
3. S2B Echo
4. Version
5. Self Test
6. Get Self Test Result
7. Basic Engine Test
8. Laser Test
9. Focus Test
10. Tilt Test
11. Optimise Jitter
12. Statistics Info
13. Log →
14. Spindle Motor →
15. Radial →
16. Sledge →
17. Tray →

### *Basic Engine Error Log*

1. Read Error Log
2. Reset Error Log

### *Basic Engine Spindle Motor Menu*

1. Spindle Motor On
2. Spindle Motor Off
3. Spindle Motor Test

### *Basic Engine Radial Menu*

1. Radial On
2. Radial Off
3. Radial Initialisation
4. Radial ATLS Calibration

### *Basic Engine Sledge Menu*

1. Sledge test
2. Sledge test slow

### *Basic Engine Tray Menu*

1. Tray In
2. Tray Out

### *DVIO Menu*

1. Check Presence
2. Reset
3. Access
4. Error Codes
5. Module Identifiers

### *Progressive Scan Board Menu*

1. I2C Access
2. Test Image On
3. Test Image Off

### *Loop Tests Menu*

1. Digital Board Loops →
2. User/Dealer Loops →
3. System Loops →
4. Basic Engine Loops →

### *Digital Board Loops Menu*

1. Digital Audio Loop
2. Digital Video Loop
3. Digital Video Loop VBI

### *User/Dealer Loops Menu*

1. User/Dealer Audio Loop
2. User/Dealer Video Loop
3. User/Dealer Video Loop VBI

### *System Loops Menu*

1. System Video Loop
2. System Video Loop VBI
3. System Audio Loop SCART
4. System Audio Loop SCART

### *Basic Engine Loops Menu*

1. Basic Engine write read
2. Basic Engine write read endless loop

### *Log Menu*

1. Read Error Log
2. Reset Error Log

### *Script Menu*

1. User/Dealer Script
2. Player Script

## 5.4 Nuclei Error Codes

In the following table the error codes will be described.

Error Nr	Error String
10000	"Checksum is OK"
10001	"segment name Checksum doesn't match" or "segment name segment not found"
10100	""
10101	"FLASH 1 Write access test failed"
10200	""
10201	"FLASH 2 Write access test failed"
10300	""
10301	"FLASH write test failed"
10302	"FLASH write command failed"
10303	"FLASH write test done max. number of times"
10400	""
10401	"HostDec SDRAM Memory data bus test goes wrong."

ErrorNr	Error String
10402	" HostDec SDRAM Memory address bus test goes wrong."
10403	" HostDec SDRAM Physical memory device test goes wrong."
10500	""
10501	" HostDec SDRAM Memory data bus test goes wrong."
10502	" HostDec SDRAM Memory address bus test goes wrong."
10503	" HostDec SDRAM Physical memory device test goes wrong."
10600	""
10601	"HostDec DRAM Memory data bus test goes wrong."
10602	"HostDec DRAM Memory address bus test goes wrong."
10603	"HostDec DRAM Physical memory device test goes wrong."
10700	""
10701	"HostDec DRAM Memory data bus test goes wrong."
10702	"HostDec DRAM Memory address bus test goes wrong."
10703	"HostDec DRAM Physical memory device test goes wrong."
10800	"Host Decoder version(out) number: version number" "Digital hardware version"
10801	"Can not find version in FLASH."
10900	""
10901	"Error muting audio"
11000	""
11001	"Error demuting audio"
11500	""
11501	"Init of I2C failed"
11502	"The selection of the clock source failed"
11504	"The demute of the audio failed"
11600	""
11601	"Init of I2C failed"
11602	"The mute of the audio failed"
11700	""
11701	"Init of I2C failed"
11702	"The muting of the audio failed"
11703	"The demute of the audio failed"
11704	"The selection of the clock source failed"
11707	"Setup of Front panel failed"
11708	"Sine on Front panel keyboard failed"
11800	""
11801	"Init of I2C failed"
11802	"The muting of the audio failed"
11803	"The demute of the audio failed"
11804	"The selection of the clock source failed"
11805	"Error cannot start VSM audio in port"
11900	""
11901	"Init of I2C failed"
11902	"The muting of the audio failed"
11903	"The demute of the audio failed"
11904	"The selection of the clock source failed"
11905	"Error cannot start VSM audio in port"
12000	""
12100	""
12200	""
12201	"I2C bus busy before start"
12202	"NVRAM access time-out"

ErrorNr	Error String
12203	"No NVRAM acknowledge"
12204	"NVRAM time-out"
12205	"NVRAM Write/Read back failed"
12300	""
12301	"I2C bus busy before start"
12302	"NVRAM read access time-out"
12303	"No NVRAM read acknowledge"
12304	"NVRAM read failed"
13000	"Bootcode application version : bootversion"
13001	"Can not find version in FLASH."
13100	"Recorder application version : recorderversion"
13101	"Can not find version in FLASH."
13200	"Diagnostics application version : diagversion"
13201	"Can not find version in FLASH."
13300	"Download application version : downloadversion"
13301	"Can not find version in FLASH."
20000	""
20001	"I2C bus busy before start"
20002	"Video Encoder access time-out"
20003	"No acknowledge from Video Encoder"
20004	"No data send/received to or from Video Encoder"
20005	"SAA711x VIP can not be initialised"
20200	""
20201	"I2C bus busy before start"
20202	"SAA711X VIP access time-out"
20203	"No acknowledge from SAA711X VIP"
20204	"No data received from SAA711X VIP"
20300	""
20301	"Error audio encoder SRAM access cannot initialise I2C"
20302	"Error audio encoder SRAM access cannot reset DSP through I2C"
20303	"Error audio encoder SRAM access cannot download boot"
20304	"Error audio encoder cannot download test code"
20305	"Error audio encoder cannot obtain result of test"
20306	"Error audio encoder SRAM access stuck-at-zero data line "
20307	"Error audio encoder SRAM access stuck-at-one data line "
20308	"Error audio encoder SRAM access stuck-at-one address line "
20309	"Error audio encoder SRAM access address line address line x is connected to data line data line y"
20310	"Error audio encoder SRAM access address lines address line x and address line y are connected "
20311	"Error audio encoder SRAM access data lines data line x and data line y are connected "
20312	"Error audio encoder SRAM access illegal data received"
20400	""
20401	"Error audio encoder access cannot initialise I2C"
20402	"Error audio encoder access cannot reset DSP through I2C"
20403	"Error audio encoder accessing ICR register"
20404	"Error audio encoder access stuck-at-zero of data line "
20405	"Error audio encoder access stuck-at-one of data line "
20406	"Audio encoder access data lines data line x and data line y are interconnected "
20500	""

Error Nr	Error String
20501	"Error audio encoder SRAM WRR cannot initialise I2C"
20502	"Error audio encoder SRAM WRR cannot reset DSP through I2C"
20503	"Error audio encoder WRR cannot download boot"
20504	"Error audio encoder cannot download test code"
20505	"Error audio encoder SRAM WRR cannot obtain result of test"
20506	"Error audio encoder WRR SRAM stuck-at-zero data bit "
20507	"Error audio encoder WRR SRAM stuck-at-one data bit "
20508	"Error audio encoder WRR SRAM data lines data line x and data line y are connected"
20509	"Error audio encoder WRR SRAM illegal data received"
20600	" "
20601	"Error audio encoder interrupt cannot initialise I2C"
20602	"Error audio encoder interrupt cannot reset DSP through I2C"
20603	"Error audio encoder cannot download test code"
20604	"Error audio encoder interrupt cannot download boot"
20605	"Error occurred accessing VSM"
20606	"Audio encoder interrupt not received"
20700	" "
20701	"Error audio encoder I2C cannot reset DSP through I2C"
20702	"Error audio encoder cannot download boot"
20703	"Error audio encoder cannot download TEST code"
20704	"Error audio encoder I2C bus busy"
20705	"Error audio encoder I2C cannot write slave address"
20706	"Error audio encoder I2C no acknowledge received"
20707	"Error audio encoder I2C cannot send/receive data"
20708	"Error audio encoder received data through I2C was invalid"
20800	" "
20801	"I2C access failed."
20802	"SAA7118 VIP can not be initialised."
20803	"Invalid input"
30000	" "
30001	"VSM SDRAM Bank1 Memory databus test goes wrong."
30002	"VSM SDRAM Bank1 Memory addressbus test goes wrong."
30003	"VSM SDRAM Bank1 Physical memory device test goes wrong."
30004	" VSM SDRAM Bank2 Memory databus test goes wrong."
30005	" VSM SDRAM Bank2 Memory addressbus test goes wrong."
30006	" VSM SDRAM Bank2 Physical memory device test goes wrong."
30007	"VSM SDRAM Bank1 VSM interrupt register A has a -stuck at- error for value."
30008	"VSM SDRAM Bank2 VSM interrupt register A has a -stuck at- error for value."
30100	" "
30101	"VSM SDRAM Bank1 Memory databus test goes wrong."

Error Nr	Error String
30102	"VSM SDRAM Bank1 Memory addressbus test goes wrong."
30103	"VSM SDRAM Bank1 Physical memory device test goes wrong."
30104	" VSM SDRAM Bank2 Memory databus test goes wrong."
30105	" VSM SDRAM Bank2 Memory addressbus test goes wrong."
30106	" VSM SDRAM Bank2 Physical memory device test goes wrong."
30200	" "
30201	"VSM SDRAM Bank1 Memory databus test goes wrong."
30202	"VSM SDRAM Bank1 Memory addressbus test goes wrong."
30203	"VSM SDRAM Bank1 Physical memory device test goes wrong."
30204	" VSM SDRAM Bank2 Memory databus test goes wrong."
30205	" VSM SDRAM Bank2 Memory addressbus test goes wrong."
30206	" VSM SDRAM Bank2 Physical memory device test goes wrong."
30300	" "
30301	"VSM interrupt register A has a -stuck at- error for value."
30302	"VSM interrupt register B has a -stuck at- error for value."
30303	"Interrupt A wasn't raised."
30304	"Interrupt B wasn't raised."
30305	"Interrupts A and B were raised."
30400	" "
30401	"VSM SDRAM Bank1 Memory databus test goes wrong."
30402	"VSM SDRAM Bank1 Memory addressbus test goes wrong."
30403	"VSM SDRAM Bank1 Physical memory device test goes wrong."
30404	" VSM SDRAM Bank2 Memory databus test goes wrong."
30405	" VSM SDRAM Bank2 Memory addressbus test goes wrong."
30406	" VSM SDRAM Bank2 Physical memory device test goes wrong."
30500	" "
30501	"Communication with the analogue board fails."
30502	"Echo test to analogue board returned wrong string."
40000	" "
40001	"NVRAM Reset; I2C failed"
40100	"NVRAM address = 0xaddress -> Byte value = 0xvalue"
40101	"NVRAM Read; I2C failed"
40102	"NVRAM Read; Invalid input"
40200	" "
40201	"NVRAM Modify; I2C failed"
40202	"NVRAM Modify; Invalid input"
40300	"DV Unique ID = id"
40301	"NVRAM Read DV Unique ID; I2C failed"
40400	"\r\n Error log:\r\n errorString \r\n Ö "
40401	"NVRAM error log; I2C failed"
40402	"NVRAM error log is invalid"
40403	"Front panel failed"
40700	" "
40701	"NVRAM error log reset; I2C failed"



ErrorNr	Error String
40900	"Region code Change counter is reset"
40901	"NVRAM region code reset; I2C failed"
41000	""
41001	"NVRAM Store DV Unique ID; I2C failed"
41002	"NVRAM Store DV Unique ID; Invalid input"
50000	""
50007	"Execution of the command on the analogue board failed."
50008	"The frontpanel could not be accessed by the analogue board."
50009	"The echo from the frontpanel processor was not correct."
50100	" Front panel version: FPversion "
50102	"Execution of the command on the analogue board failed."
50103	"The frontpanel could not be accessed by the analogue board."
50200	""
50204	"Execution of the command on the analogue board failed."
50205	"The frontpanel could not be accessed by the analogue board."
50206	"The frontpanel did not show a starburst."
50207	"The user skipped the FP-which pattern test."
50208	"The user returned an unknown confirmation: confirmation "
50209	"The frontpanel did not show horizontal segments."
50210	"The frontpanel did not show vertical segments."
50300	""
50304	"Execution of the command on the analogue board failed."
50305	"The frontpanel could not be accessed by the analogue board."
50306	"The frontpanel did not light all labels."
50307	"The user skipped the rest of the FP-label test."
50308	"The user returned an unknown confirmation: confirmation"
50400	""
50404	"Execution of the command on the analogue board failed."
50405	"The frontpanel could not be accessed by the analogue board."
50406	"The LED's could not be turned on."
50407	"The user skipped the rest of the FP-LED test."
50408	"The user returned an unknown confirmation: confirmation"
50500	""
50502	"Front panel Keyboard; test failed"
50503	"Front panel Keyboard; test aborted"
50504	"Front panel Keyboard; not all keys were pressed"
50505	"Front panel keyboard I2C connection failed"
50600	""
50602	"Front panel Remote control; test failed"
50603	"Front panel Remote control; test aborted"
50604	"Front panel remote control; can not access FP"
50605	"Front panel remote control; no user input received"
50700	""
50701	"Execution of the command on the analogue board failed."
50702	"The frontpanel could not be accessed by the analogue board."
50703	"The frontpanel did not show a starburst."

ErrorNr	Error String
50704	"The user skipped the FP-starburst test."
50705	"The user returned an unknown confirmation: confirmation "
50800	""
50801	"Execution of the command on the analogue board failed."
50802	"The frontpanel could not be accessed by the analogue board."
50803	"The frontpanel did not show vertical segments."
50804	"The user skipped the FP-vertical segments test."
50805	"The user returned an unknown confirmation: confirmation "
50900	""
50901	"Execution of the command on the analogue board failed."
50902	"The frontpanel could not be accessed by the analogue board."
50903	"The frontpanel did not show horizontal segments."
50904	"The user skipped the FP-horizontal segments test."
50905	"The user returned an unknown confirmation: confirmation "
51400	""
51401	"Execution of the command on the analogue board failed."
51402	"The frontpanel could not be accessed by the analogue board."
51403	"The beeper did not sound."
51404	"The user skipped the FP-Beep test."
51405	"The user returned an unknown confirmation: confirmation"
51500	""
51501	"Execution of the command on the analogue board failed."
51502	"The frontpanel could not be accessed by the analogue board."
51503	"The discbar did not display properly."
51504	"The user skipped the discbar test."
51505	"The user returned an unknown confirmation: confirmation"
51600	""
51601	"Execution of the command on the analogue board failed."
51602	"The frontpanel could not be accessed by the analogue board."
51603	"The discbar dots did not display properly."
51604	"The user skipped the discbar dots test."
51605	"The user returned an unknown confirmation: confirmation"
51700	""
51701	"Execution of the command on the analogue board failed."
51702	"The frontpanel could not be accessed by the analogue board."
51703	"The VU grid did not display properly."
51704	"The user skipped the VU gridtest."
51705	"The user returned an unknown confirmation: confirmation"
51800	""
51801	"Execution of the command on the analogue board failed."
51802	"The frontpanel could not be accessed by the analogue board."
51803	"The frontpanel could not be dimmed."

Error Nr	Error String
51804	"The user skipped the FP-Dim test."
51805	"The user returned an unknown confirmation: confirmation"
51900	" "
51901	"Execution of the command on the analogue board failed."
51902	"The frontpanel could not be accessed by the analogue board."
51903	"The frontpanel did not show segments blinking."
51904	"The user skipped the FP-blinking test."
51905	"The user returned an unknown confirmation: confirmation"
52000	" "
52001	"Execution of the command on the analogue board failed."
52002	"The frontpanel could not be accessed by the analogue board."
52003	"The frontpanel did not show all segments lit."
52004	"The user skipped the FP-light all segments test."
52005	"The user returned an unknown confirmation: confirmation"
52200	" "
52201	"Communication with Analogue Board fails."
52202	"Frontpanel can not be accessed by the Analogue Board."
52300	" "
52301	"Communication with Analogue Board fails."
52302	"Frontpanel can not be accessed by the Analogue Board."
60000	" "
60100	" "
60101	"Basic Engine returned error number 0xerrornumber"
60102	"Parity error from Basic Engine to Serial"
60103	"Communication time-out error"
60104	"Unexpected response from Basic Engine"
60105	"Echo loop could not be closed"
60106	"Wrong echo pattern received"
60200	"Version: nr1.nr2.nr3"
60201	"Basic Engine returned error number 0xerrornumber"
60202	"Parity error from Basic Engine to Serial"
60203	"Communication time-out error"
60204	"Unexpected response from Basic Engine"
60205	"Front Panel failed."
60300	" "
60301	"Basic-Engine time-out error"
60400	" "
60401	"Basic Engine returned error number 0xerrornumber"
60402	"Parity error from Basic Engine to Serial"
60403	"Communication time-out error"
60404	"Unexpected response from Basic Engine"
60405	"Focus loop could not be closed"
60500	" "
60501	"Basic Engine returned error number 0xerrornumber"
60502	"Parity error from Basic Engine to Serial"
60503	"Communication time-out error"
60504	"Unexpected response from Basic Engine"
60600	" "
60601	"Basic Engine returned error number 0xerrornumber"

Error Nr	Error String
60602	"Parity error from Basic Engine to Serial"
60603	"Communication time-out error"
60604	"Unexpected response from Basic Engine"
60700	" "
60701	"Basic Engine returned error number 0xerrornumber"
60702	"Parity error from Basic Engine to Serial"
60703	"Communication time-out error"
60704	"Unexpected response from Basic Engine"
60800	" "
60801	"Basic Engine returned error number 0xerrornumber"
60802	"Parity error from Basic Engine to Serial"
60803	"Communication time-out error"
60804	"Unexpected response from Basic Engine"
60805	"Radial loop could not be closed"
60900	" "
60901	"Basic Engine returned error number 0xerrornumber"
60902	"Parity error from Basic Engine to Serial"
60903	"Communication time-out error"
60904	"Unexpected response from Basic Engine"
61500	" "
61501	"Basic Engine returned error number 0xerrornumber"
61502	"Parity error from Basic Engine to Serial"
61503	"Communication time-out error"
61504	"Unexpected response from Basic Engine"
61600	" "
61601	"Basic Engine returned error number 0xerrornumber"
61602	"Parity error from Basic Engine to Serial"
61603	"Communication time-out error"
61604	"Unexpected response from Basic Engine"
61700	" "
61701	"BE tray-in command failed"
61702	"BE read-TOC command failed"
61703	"BE VSM interrupt initialisation failed"
61704	"BE set irq command failed"
61705	"BE no disc or wrong disc inserted"
61706	"BE rec-pause command failed"
61707	"BE VSM BE out DMA initialisation failed"
61708	"BE VSM BE out initialisation failed"
61709	"BE VSM BE out DMA start failed"
61710	"BE VSM BE out start failed"
61711	"BE rec command failed"
61712	"BE VSM out underrun error occurred"
61713	"BE record complete interrupt not raised"
61714	"BE get irq command failed"
61715	"BE no interrupt was raised by BE"
61716	"BE VSM DMA out not finished"
61717	"BE stop command after writing failed"
61718	"BE VSM Sector processor initialisation failed"
61719	"BE VSM sector processor DMA initialisation failed"
61720	"BE VSM sector processor DMA start failed"
61721	"BE VSM sector processor start failed"
61722	"BE seek command failed"
61723	"BE VSM sector processor error occurred"
61724	"BE read timeout occurred"
61725	"BE stop command after reading failed"

Error Nr	Error String	Error Nr	Error String
61726	"BE difference found in data at disc sector 0xdiscsector"	62804	"Unexpected response from Basic Engine"
61727	"This nucleus cannot be executed because the Self-Test failed"	62805	"BE write EEPROM; invalid input"
61800	"	62900	"
61801	"BE i2c initialisation failed"	62901	"Basic Engine returned error number 0xerrornumber"
61802	"This nucleus cannot be executed because the Self-Test failed"	62902	"Parity error from Basic Engine to Serial"
61900	"	62903	"Communication time-out error"
61901	"The SelfTest failed with result: 0xnr1 0xnr2 0xnr3"	62904	"Unexpected response from Basic Engine"
61902	"Basic Engine returned error number 0xerrornumber"	62905	"Radial loop could not be closed"
61903	"Parity error from Basic Engine to Serial"	63000	"
61904	"Communication time-out error"	63001	"Basic Engine returned error number 0xerrornumber"
61905	"Unexpected response from Basic Engine"	63002	"Parity error from Basic Engine to Serial"
62000	"	63003	"Communication time-out error"
62001	"Self-Test : errorstring1 Laser-Test : errorstring2 SpindleM-Test: errorstring3 SledgeM-Test : errorstring4 Focus-Test : errorstring5"	63004	"Unexpected response from Basic Engine"
62100	"The forward sense level is 0xlevel"	63100	" Number of times Tray went Open/Closed : nr1" " Total hours the CD laser was on : nr2" " Total hours the DVD laser was on : nr3" " Total hours the write laser was on : nr4"
62101	"Basic Engine returned error number 0xerrornumber"	63101	"Basic Engine returned error number 0xerrornumber"
62102	"Parity error from Basic Engine to Serial"	63102	"Parity error from Basic Engine to Serial"
62103	"Communication time-out error"	63103	"Communication time-out error"
62104	"Unexpected response from Basic Engine"	63104	"Unexpected response from Basic Engine"
62200	"	63200	"
62201	"The BE-self-diagnostic-spindle-motor-test failed"	63201	"Basic Engine returned error number 0xerrornumber"
62202	"Basic Engine returned error number 0xerrornumber"	63202	"Parity error from Basic Engine to Serial"
62203	"Parity error from Basic Engine to Serial"	63203	"Communication time-out error"
62204	"Communication time-out error"	63204	"Unexpected response from Basic Engine"
62205	"Unexpected response from Basic Engine"	63300	Momentary errors (Byte 1 - Byte 7) : 0xb1 0xb2 0xb3 0xb4 0xb5 0xb6 0xb7 Cumulative errors (Byte 1 - Byte 7): : 0xb1 0xb2 0xb3 0xb4 0xb5 0xb6 0xb7 Fatal errors (Oldest - Youngest) : : 0xb1 0xb2 0xb3 0xb4 0xb5
62300	"	63301	"Basic Engine returned error number 0xerrornumber"
62301	"The BE-focus-test failed"	63302	"Parity error from Basic Engine to Serial"
62302	"Basic Engine returned error number 0xerrornumber"	63303	"Communication time-out error"
62303	"Parity error from Basic Engine to Serial"	63304	"Unexpected response from Basic Engine"
62304	"Communication time-out error"	63400	"
62305	"Unexpected response from Basic Engine"	63401	"Basic Engine returned error number 0xerrornumber"
62400	"	63402	"Parity error from Basic Engine to Serial"
62401	"The BE-self-diagnostic-sledge-motor-test failed"	63403	"Communication time-out error"
62402	"Basic Engine returned error number 0xerrornumber"	63404	"Unexpected response from Basic Engine"
62403	"Parity error from Basic Engine to Serial"	63500	"
62404	"Communication time-out error"	63501	"Basic Engine returned error number 0xerrornumber"
62405	"Unexpected response from Basic Engine"	63502	"Parity error from Basic Engine to Serial"
62500	"	63503	"Communication time-out error"
62600	"	63504	"Unexpected response from Basic Engine"
62700	"BE EEPROM address = address -> Byte value = 0xvalue"	63505	"errorstring The basic engine will reject all player commands"
62701	"Basic Engine returned error number 0xerrornumber"	63900	"
62702	"Parity error from Basic Engine to Serial"	63901	"Basic Engine returned error number 0xerrornumber"
62703	"Communication time-out error"	63902	"Parity error from Basic Engine to Serial"
62704	"Unexpected response from Basic Engine"	63903	"Communication time-out error"
62705	"BE read EEPROM; invalid input"	63904	"Unexpected response from Basic Engine"
62800	"	70000	"Echo test OK"
62801	"Basic Engine returned error number 0xerrornumber"	70001	"Echo test returned wrong string."
62802	"Parity error from Basic Engine to Serial"	70002	"Communication with Analogue Board fails"
62803	"Communication time-out error"		

Error Nr	Error String
70300	"SoftwareVersion"
70301	"Can not find segment in FLASH ROM on the Analogue Board"
70302	"Communication with Analogue Board fails"
70400	"HardwareVersion"
70401	"Can not find segment in FLASH ROM on the Analogue Board"
70402	"Communication with Analogue Board fails"
70500	"Clock adjusted OK"
70501	"Can not adjust the clock on the Analogue Board."
70502	"Wrong date/time text size."
70503	"Communication with Analogue Board fails"
70600	"Tuner accessibility test OK"
70601	"Can not access tuner on the Analogue Board."
70602	"Communication with Analogue Board fails"
70700	"Frequency download OK"
70701	"Wrong frequency table size."
70702	"Can not download the frequency table into the analogue NVRAM."
70703	"Can not download the frequency table into the analogue NVRAM."
70704	"Communication with Analogue Board fails"
70800	"Data slicer test OK"
70801	"Test of the Data slicer on the Analogue Board fails."
70802	"Communication with Analogue Board fails"
70900	"Sound Processor test OK"
70901	"Test of the Sound Processor on the Analogue Board fails."
70902	"Communication with Analogue Board fails"
71000	"AV Selector test OK"
71001	"Test of the AV Selector on the Analogue Board fails."
71002	"Communication with Analogue Board fails"
71100	"NVRAM test OK"
71101	"Test of the NVRAM on the Analogue Board fails."
71102	"Communication with Analogue Board fails"
71200	"Video routing on the Analogue Board OK"
71201	"Routing the video on the Analogue Board fails."
71202	"Invalid input."
71203	"Communication with Analogue Board fails"
71300	"Audio routing on the Analogue Board OK"
71301	"Routing the audio on the Analogue Board fails."
71302	"Invalid input."
71303	"Communication with Analogue Board fails"
71400	"Audio routing on the Analogue Board OK"
71401	"Can not access switching matrix."
71402	"CVBS signal is invalid."
71403	"Communication with Analogue Board fails"
71500	""
71501	"Invalid slash version, default slash version is set."
71502	"Setting the slash version on the Analogue Board fails."
71503	"Communication with Analogue Board fails"
71600	"ApplicationVersion"
71601	"Can not find segment in FLASH ROM on the Analogue Board"
71602	"Communication with Analogue Board fails"
71700	"DiagnosticsVersion"
71701	"Can not find segment in FLASH ROM on the Analogue Board"
71702	"Communication with Analogue Board fails"
71800	"DownloadVersion"

Error Nr	Error String
71801	"Can not find segment in FLASH ROM on the Analogue Board"
71802	"Communication with Analogue Board fails"
72300	""
72301	"Clearing the NVRAM on the Analogue Board fails"
72302	"Communication with Analogue Board fails"
72400	"segment checksum is : checksum which is correct" for every segment
72401	"segment could not be found" or "segment checksum is : checksumC ,however it should be : checksumE" for every segment
72402	"Communication with Analogue Board fails"
73000	""
73001	"Storing the external presets on the Analogue Board fails"
73002	"Communication with Analogue Board fails"
80000	"The DVIO module is present in the system."
80001	"The DVIO module is not present in the system."
80100	"The DVIO module has been reset OK."
80101	"The DVIO module is not present in the system."
80102	"The DVIO module could not be reset."
80103	"Could not initialise I2C before Reset."
80200	"The accessibility of the DVIO module is OK."
80201	"The DVIO board is not present in this DVDR."
80202	"Could not initialise I2C."
80203	"Unable to reset the DVIO module."
80204	"Unable to receive the reset indication from the DVIO module."
80205	"Unable to send the configuration to the DVIO module."
80206	"Unable to download the chip ID to the DVIO module."
80207	"Unable to set the mode of the DVIO module to IDLE."
80208	"Software Error in function HandleStateAwaitingReply !!"
80209	"Maximal number of retries reached by HandleStateSending !!"
80210	"Maximal number of retries (NACKs) reached (HandleStateSending)"
80211	"We tried to receive a reply for DVIO_MAX_RETRIES_ACKREPLY times !!"
80212	"We tried to receive a reply for DVIO_MAX_RETRIES_REPLY times !!"
80213	"We tried to receive an Ack for DVIO_MAX_RETRIES_ACK times!!"
80214	"VSM UART error timeout transmitting command"
80215	"VSM UART error timeout receiving reply"
80216	"VSM UART frame error occurred receiving from DVIO board"
80217	"VSM UART parity error occurred receiving from DVIO board"
80218	"The confirmation/indication from the DVIO module is invalid."
80300	"The accessibility of the DVIO module is OK."
80301	"The DVIO board is not present in this DVDR."
80302	"Could not initialise I2C."
80303	"Unable to reset the DVIO module."
80304	"Unable to receive the reset indication from the DVIO module."
80305	"Unable to send the configuration to the DVIO module."
80306	"Unable to download the chip ID to the DVIO module."

ErrorNr	Error String
80307	"Unable to set the mode of the DVIO module to IDLE."
80308	"Software Error in function HandleStateAwaitingReply !!"
80309	"Maximal number of retries reached by HandleStateSending !!"
80310	"Maximal number of retries (NACKs) reached (HandleStateSending)"
80311	"We tried to receive a reply for DVIO_MAX_RETRIES_ACKREPLY times !!"
80312	"We tried to receive a reply for DVIO_MAX_RETRIES_REPLY times !!"
80313	"We tried to receive an Ack for DVIO_MAX_RETRIES_ACK times!!"
80314	"VSM UART error timeout transmitting command"
80315	"VSM UART error timeout receiving reply"
80316	"VSM UART frame error occurred receiving from DVIO board"
80317	"VSM UART parity error occurred receiving from DVIO board"
80318	"The confirmation/indication from the DVIO module is invalid."
80400	"The accessibility of the DVIO module is OK."
80401	"The DVIO board is not present in this DVDR."
80402	"Could not initialise I2C."
80403	"Unable to reset the DVIO module."
80404	"Unable to receive the reset indication from the DVIO module."
80405	"Unable to send the configuration to the DVIO module."
80406	"Unable to download the chip ID to the DVIO module."
80407	"Unable to set the mode of the DVIO module to IDLE."
80408	"Software Error in function HandleStateAwaitingReply !!"
80409	"Maximal number of retries reached by HandleStateSending !!"
80410	"Maximal number of retries (NACKs) reached (HandleStateSending)"
80411	"We tried to receive a reply for DVIO_MAX_RETRIES_ACKREPLY times !!"
80412	"We tried to receive a reply for DVIO_MAX_RETRIES_REPLY times !!"
80413	"We tried to receive an Ack for DVIO_MAX_RETRIES_ACK times!!"
80414	"VSM UART error timeout transmitting command"
80415	"VSM UART error timeout receiving reply"
80416	"VSM UART frame error occurred receiving from DVIO board"
80417	"VSM UART parity error occurred receiving from DVIO board"
80418	"The confirmation/indication from the DVIO module is invalid."
90000	""
90001	"Error cannot initialise I2C"
90002	"Error cannot initialise VIP"
90003	"Error cannot clear ADC enable pin"
90004	"Error cannot set VSM audio clock"
90005	"Error cannot initialise audio encoder"
90006	"Error cannot initialise VSM audio in port"
90007	"Error cannot initialise VSM audio in DMA port"
90008	"Error cannot initialise VSM audio out DMA port"
90009	"Error cannot initialise host decoder audio in"
90010	"Error cannot initialise audio VSM out port"

ErrorNr	Error String
90011	"Error digital loop audio cannot start audio encoder"
90012	"Error cannot start VSM audio in DMA port"
90013	"Error cannot start VSM audio in port"
90014	"Error transfer data from audio encoder to VSM"
90015	"Error cannot start VSM AV out DMA port"
90016	"Error cannot start VSM AV out port"
90017	"Error transfer data from VSM to host decoder"
90018	"Error digital loop audio data in host memory and VSM memory differ"
90019	"Error digital loop audio data is not a valid MPEG stream"
90020	"Error digital loop audio data is not a digital silence"
90100	""
90101	"Error routing the audio back to the digital board."
90102	"Error cannot initialise I2C"
90103	"Error cannot initialise VIP"
90104	"Error cannot set ADC enable pin"
90105	"Error cannot set VSM audio clock"
90106	"Error preparing the 12kHz audio-sine"
90107	"Error cannot initialise audio encoder"
90108	"Error cannot initialise VSM audio in port"
90109	"Error cannot initialise VSM audio in DMA port"
90110	"Error cannot initialise VSM audio out DMA port"
90111	"Error cannot initialise audio VSM out port"
90112	"Error cannot initialise host decoder audio in"
90113	"Error loop audio user/dealer cannot start audio encoder"
90114	"Error cannot start VSM audio in DMA port"
90115	"Error starting the 12kHz audio-sine"
90116	"Error transfer data from audio encoder to VSM"
90117	"Error cannot start VSM AV out DMA port"
90118	"Error cannot start VSM AV out port"
90119	"Error transfer data from VSM to host decoder"
90120	"Error: audio data in host memory and VSM memory differ"
90121	"Error: audio data in host memory contains wrong frequency: frequency Hz"
90122	"Error: audio data in host memory contains silence!"
90123	"There is no correct audio frame in the buffer"
90124	"The audio frame has an illegal version bit"
90125	"The audio frame has an illegal bitrate-index"
90126	"The audio frame has an illegal sampling rate"
90127	"The CRC of the audio frame is wrong"
90128	"The audio frame is not MPEG-I layer II !"
90129	"Error cannot de-mute DAC on analogue board"
90200	""
90201	"Initialisation of I2C failed"
90202	"Initialisation of VIP and EMPIRE failed"
90203	"Initialisation of PLL / Link failed."
90204	"Next descriptor address set wrong."
90205	"Turning on the colourbar failed"
90206	"No I2C communication possible to start video encoder."
90207	"Starting the video encoder failed."
90208	"Transfer of data from video encoder to VSM failed."
90209	"Stopping the encoder failed."
90210	"Turning off the colourbar failed."
90211	"Cannot initialize hostdecoder parallel input"
90212	"Cannot initialise VSM AV-out DMA port"

Error Nr	Error String
90213	"Cannot initialise VSM AV-out port"
90214	"Cannot start VSM AV-out DMA port"
90215	"Cannot start VSM AV-out port"
90216	"Transfer of data from VSM to host decoder failed."
90217	"VSM and Hostdec memory do not match (compared after transfer)"
90218	"Decoding of the video data in the hostdecoder memory failed"
90219	"The data in the hostdecoder is not equal to a colourbar"
90220	"The video encoder did not return the Group Of Picture count."
90221	"The video encoder did not receive data from the VIP."
90223	"Initialisation of VIP and EMPRESS failed"
90224	"The video encoder did not return the current status."
90225	"The video encoder timed out in BUSY mode. (no VIP input)"
90226	"The video encoder did not return the current bitrate."
90227	"The video encoder did not switch to ENCODING mode."
90228	"The video encoder could not start from STOP/IDLE mode."
90229	"The video encoder did not switch from IDLE to STOP mode."
90300	""
90301	"Initialisation of I2C failed"
90302	"I2C communication to VIP failed"
90303	"Initialisation of VIP failed"
90304	"Generation of Close Caption data failed"
90305	"VIP not locked to video signal"
90306	"Initialisation of VBI Extractor failed"
90307	"No CC data received"
90308	"Closed Caption data overrun"
90309	"Closed Caption data does not match"
90310	"Switch off ColourBar failed"
90400	""
90401	"Initialisation of I2C failed"
90402	"Initialisation of VIP and EMPIRE failed"
90403	"Initialisation of PLL / Link failed."
90404	"Next descriptor address set wrong."
90405	"Turning on the colourbar failed"
90406	"No I2C communication possible to start video encoder."
90407	"Starting the video encoder failed."
90408	"Transfer of data from video encoder to VSM failed."
90409	"Stopping the encoder failed."
90410	"Turning off the colourbar failed."
90411	"Cannot initialize hostdecoder parallel input"
90412	"Cannot initialise VSM AV-out DMA port"
90413	"Cannot initialise VSM AV-out port"
90414	"Cannot start VSM AV-out DMA port"
90415	"Cannot start VSM AV-out port"
90416	"Transfer of data from VSM to host decoder failed."
90417	"VSM and Hostdec memory do not match (compared after transfer)"
90418	"Decoding of the video data in the hostdecoder memory failed"

Error Nr	Error String
90419	"The data in the hostdecoder is not equal to a colourbar"
90420	"The video encoder did not return the Group Of Picture count."
90421	"The video encoder did not receive data from the VIP."
90422	"Execution of the command on the analogue board failed."
90423	"Initialisation of VIP and EMPRESS failed"
90424	"The video encoder did not return the current status."
90425	"The video encoder timed out in BUSY mode. (no VIP input)"
90426	"The video encoder did not return the current bitrate."
90427	"The video encoder did not switch to ENCODING mode."
90428	"The video encoder could not start from STOP/IDLE mode."
90429	"The video encoder did not switch from IDLE to STOP mode."
90500	""
90501	"Initialisation of I2C failed"
90502	"I2C communication to VIP failed"
90503	"Initialisation of VIP failed"
90504	"Generation of Close Caption data failed"
90505	"VIP not locked to video signal"
90506	"Initialisation of VBI Extractor failed"
90507	"No CC data received"
90508	"Closed Caption data overrun"
90509	"Closed Caption data does not match"
90510	"Switch off ColourBar failed"
90511	"Execution of the command on the analogue board failed."
90600	""
90601	"Initialisation of I2C failed"
90602	"Initialisation of VIP and EMPIRE failed"
90603	"Initialisation of PLL / Link failed."
90604	"Next descriptor address set wrong."
90605	"Turning on the colourbar failed"
90606	"No I2C communication possible to start video encoder."
90607	"Starting the video encoder failed."
90608	"Transfer of data from video encoder to VSM failed."
90609	"Stopping the encoder failed."
90610	"Turning off the colourbar failed."
90611	"Cannot initialize hostdecoder parallel input"
90612	"Cannot initialise VSM AV-out DMA port"
90613	"Cannot initialise VSM AV-out port"
90614	"Cannot start VSM AV-out DMA port"
90615	"Cannot start VSM AV-out port"
90616	"Transfer of data from VSM to host decoder failed."
90617	"VSM and Hostdec memory do not match (compared after transfer)"
90618	"Decoding of the video data in the hostdecoder memory failed"
90619	"The data in the hostdecoder is not equal to a colourbar"
90620	"The video encoder did not return the Group Of Picture count."
90621	"The video encoder did not receive data from the VIP."

Error Nr	Error String
90622	"Execution of the command on the analogue board failed."
90623	"Initialisation of VIP and EMPRESS failed"
90624	"The video encoder did not return the current status."
90625	"The video encoder timed out in BUSY mode. (no VIP input)"
90626	"The video encoder did not return the current bitrate."
90627	"The video encoder did not switch to ENCODING mode."
90628	"The video encoder could not start from STOP/IDLE mode."
90629	"The video encoder did not switch from IDLE to STOP mode."
90700	""
90701	"Initialisation of I2C failed"
90702	"I2C communication to VIP failed"
90703	"Initialisation of VIP failed"
90704	"Generation of Close Caption data failed"
90705	"VIP not locked to video signal"
90706	"Initialisation of VBI Extractor failed"
90707	"No CC data received"
90708	"Closed Caption data overrun"
90709	"Closed Caption data does not match"
90710	"Switch off ColourBar failed"
90711	"Execution of the command on the analogue board failed."
90800	""
90801	"Error routing the audio back to the digital board."
90802	"Error cannot initialise I2C"
90803	"Error cannot initialise VIP"
90804	"Error cannot set ADC enable pin"
90805	"Error cannot set VSM audio clock"
90806	"Error preparing the 12kHz audio-sine"
90807	"Error cannot initialise audio encoder"
90808	"Error cannot initialise VSM audio in port"
90809	"Error cannot initialise VSM audio in DMA port"
90810	"Error cannot initialise VSM audio out DMA port"
90811	"Error cannot initialise audio VSM out port"
90812	"Error cannot initialise host decoder audio in"
90813	"Error loop audio user/dealer cannot start audio encoder"
90814	"Error cannot start VSM audio in DMA port"
90815	"Error starting the 12kHz audio-sine"
90816	"Error transfer data from audio encoder to VSM"
90817	"Error cannot start VSM AV out DMA port"
90818	"Error cannot start VSM AV out port"
90819	"Error transfer data from VSM to host decoder"
90820	"Error: audio data in host memory and VSM memory differ"
90821	"Error: audio data in host memory contains wrong frequency: frequency Hz"
90822	"Error: audio data in host memory contains silence!"
90823	"There is no correct audio frame in the buffer"
90824	"The audio frame has an illegal version bit"
90825	"The audio frame has an illegal bitrate-index"
90826	"The audio frame has an illegal sampling rate"
90827	"The CRC of the audio frame is wrong"
90828	"The audio frame is not MPEG-I layer II !"
90829	"Error cannot de-mute DAC on analogue board"
90900	""

Error Nr	Error String
90901	"Error routing the audio back to the digital board."
90902	"Error cannot initialise I2C"
90903	"Error cannot initialise VIP"
90904	"Error cannot set ADC enable pin"
90905	"Error cannot set VSM audio clock"
90906	"Error preparing the 12kHz audio-sine"
90907	"Error cannot initialise audio encoder"
90908	"Error cannot initialise VSM audio in port"
90909	"Error cannot initialise VSM audio in DMA port"
90910	"Error cannot initialise VSM audio out DMA port"
90911	"Error cannot initialise audio VSM out port"
90912	"Error cannot initialise host decoder audio in"
90913	"Error loop audio user/dealer cannot start audio encoder"
90914	"Error cannot start VSM audio in DMA port"
90915	"Error starting the 12kHz audio-sine"
90916	"Error transfer data from audio encoder to VSM"
90917	"Error cannot start VSM AV out DMA port"
90918	"Error cannot start VSM AV out port"
90919	"Error transfer data from VSM to host decoder"
90920	"Error: audio data in host memory and VSM memory differ"
90921	"Error: audio data in host memory contains wrong frequency: frequency Hz"
90922	"Error: audio data in host memory contains silence!"
90923	"There is no correct audio frame in the buffer"
90924	"The audio frame has an illegal version bit"
90925	"The audio frame has an illegal bitrate-index"
90926	"The audio frame has an illegal sampling rate"
90927	"The CRC of the audio frame is wrong"
90828	"The audio frame is not MPEG-I layer II !"
90929	"Error cannot de-mute DAC on analogue board"
140000	""
140001	"I2C to Clock failed" or "I2C initialisation failed"
140100	""
140101	"I2C to Clock failed" or "I2C initialisation failed"

## 5.5 Loop Tests

The following loops can be distinguished:

- Loops performed on the digital board only
- User Dealer loops performed on the digital and analogue board
- System loops performed via an external connection: outputs are looped back to the inputs.

### 5.5.1 Nucleus 900: Digital Audio Loop

This nucleus tests the audio path through the digital board

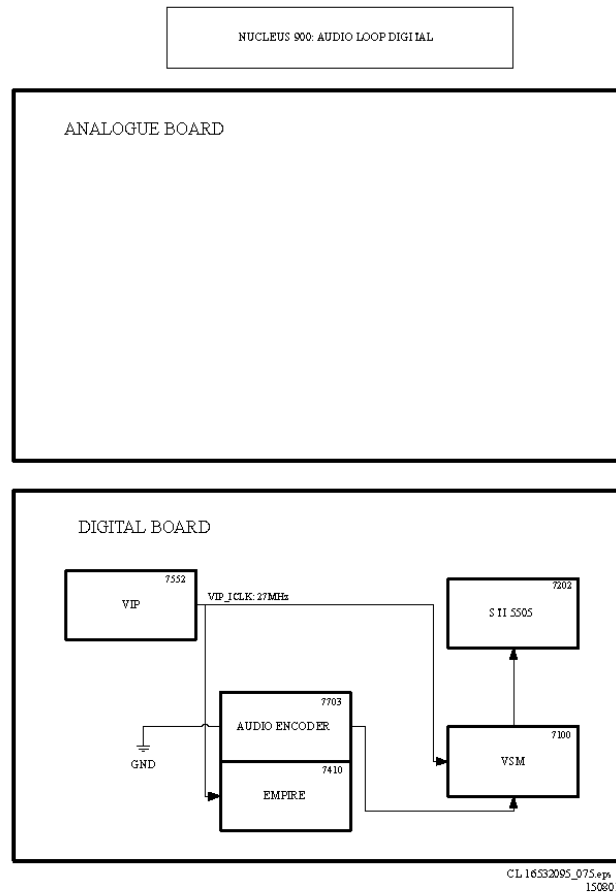


Figure 5-9

### 5.5.2 Nucleus 901: Audio User Dealer Loop

A PCM audio sine of 12kHz is generated in the Sti5505 for a while and sent to the analogue board. The signal coming from the analogue board is encoded again and sent to the memory of the host decoder for comparison. This nucleus tests the components on the audio signal path:

- Host decoder Sti5505
- Flex connection between connector 1602 (digital board) and connector 1900 (analogue board)
- DAC
- Op-amp
- Scart switch STV6410
- ADC
- Audio Encoder
- VIP
- VSM

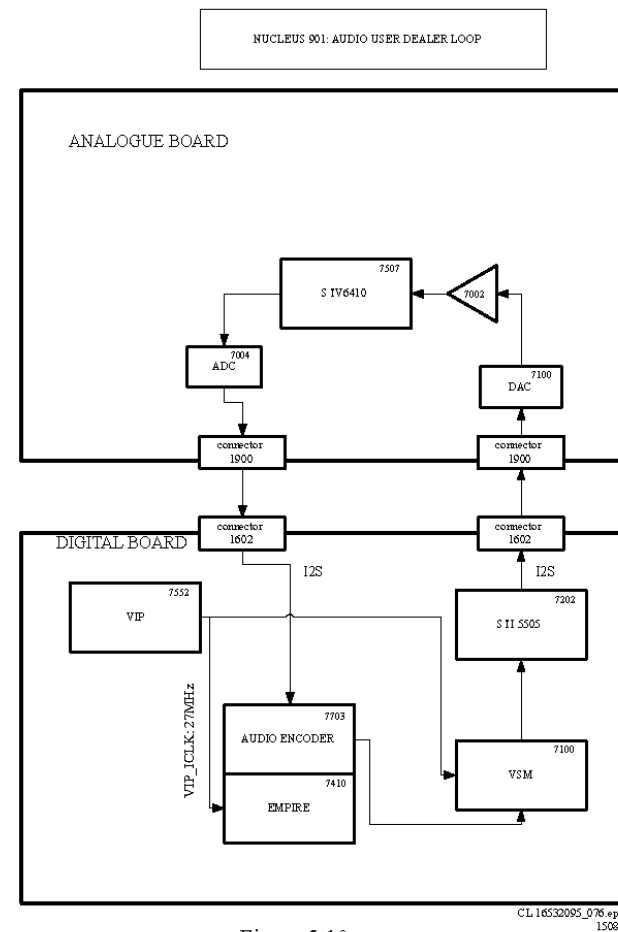


Figure 5-10



### 5.5.3 Nucleus 902: Digital Video Loop

A colourbar generated in the host decoder is looped through the VIP, Empire, and VSM and checked again in the host decoder. The following components are tested on the video signal path:

- VIP
- Empire
- VSM
- Host decoder

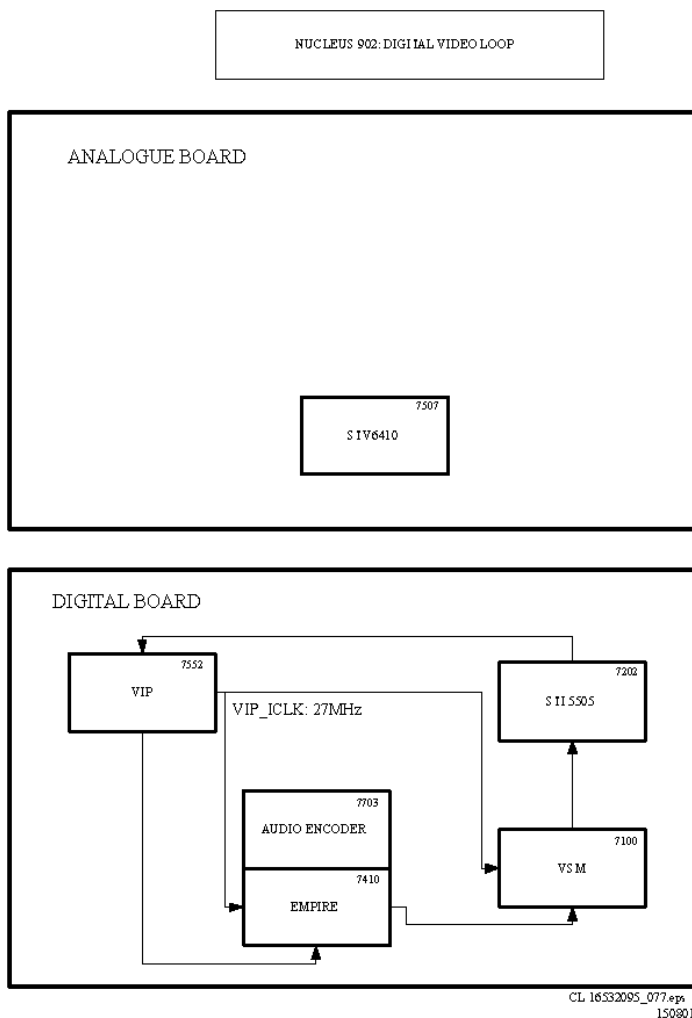


Figure 5-11

### 5.5.4 Nucleus 903: Digital Video VBI Loop

Nucleus for testing the components on the video VBI signal path:

- The VIP
- The VSM
- The Host Decoder

This is done by using the internal test signal source (digital board only)

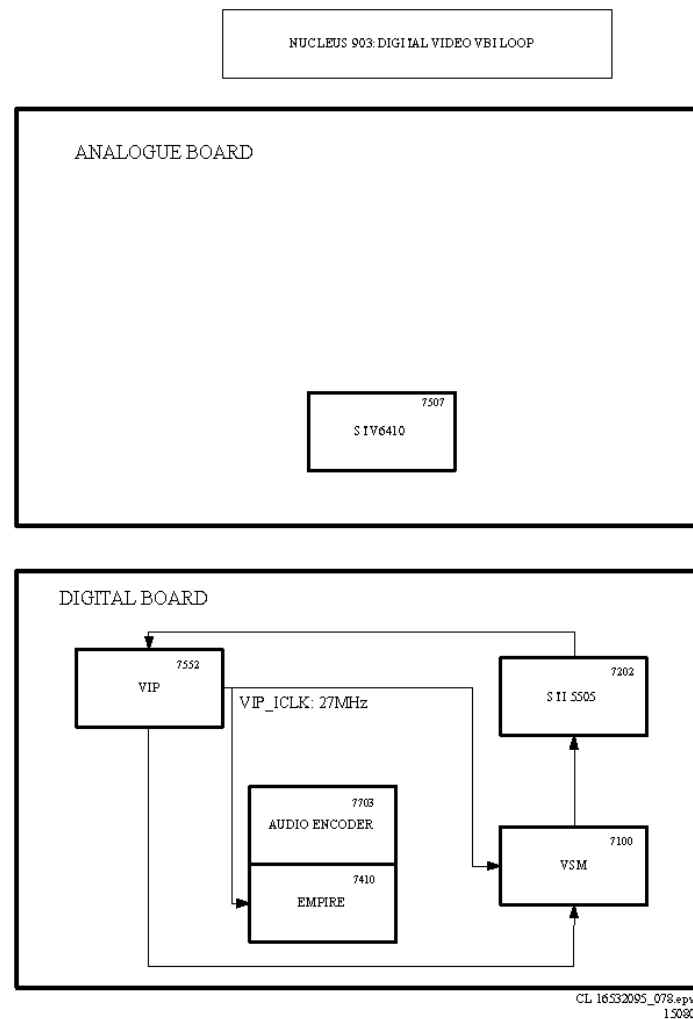


Figure 5-12

### 5.5.5 Nucleus 904: System Video Loop

Nucleus for testing the components on the video signal system path:

- The VIP
- The video encoder
- The VSM
- The host decoder
- The analogue board

On the analogue board the video signal will be routed to the SCART (EUROPE) or CINCH (NAFTA). There it will be looped back externally by means of the proper cable

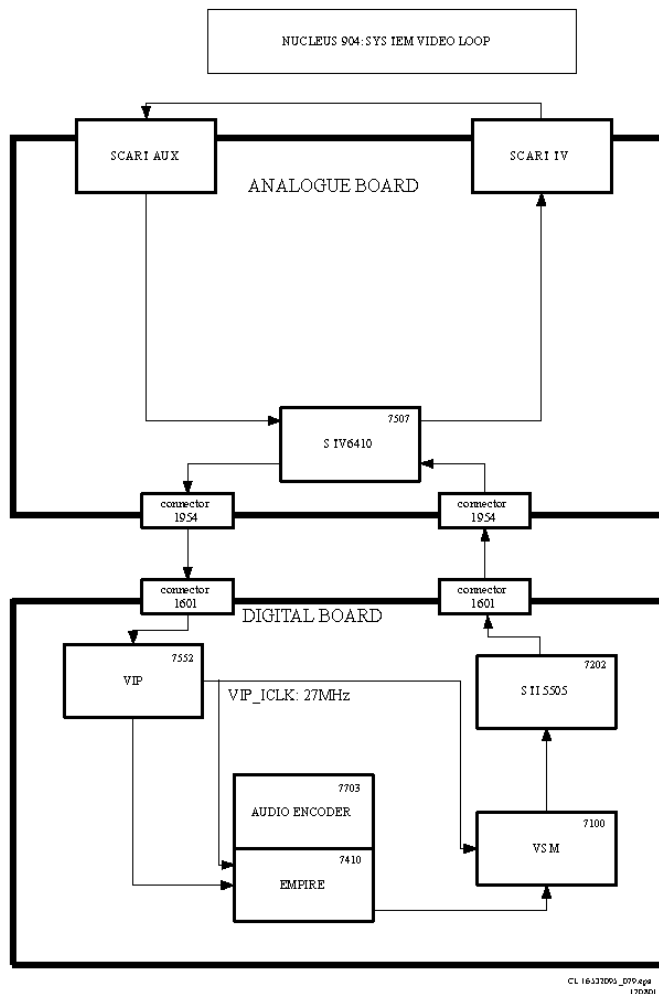


Figure 5-13

### 5.5.6 Nucleus 905: System Video VBI Loop

This nucleus tests the components on the video signal path:

- The VIP
- The VSM
- The Host Decoder

The video CVBS signal is routed to the output of the analogue board where it will be looped back by means of an external cable

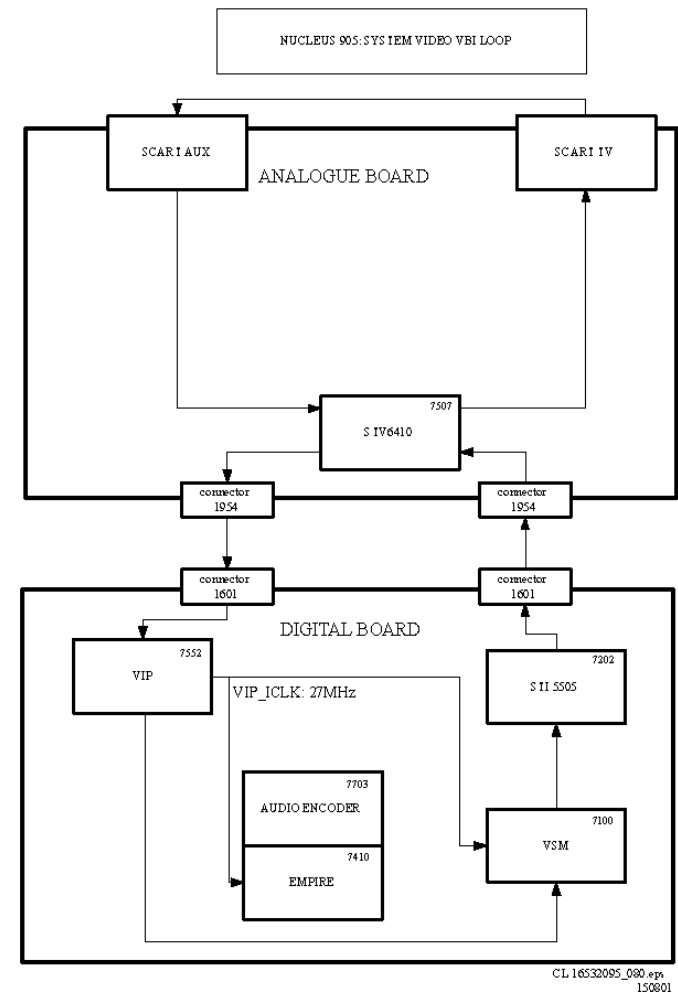


Figure 5-14

### 5.5.7 Nucleus 906: Video User Dealer Loop

Nucleus for testing the components on the video signal system path:

- The VIP
- The video encoder
- The VSM
- The host decoder
- The analogue board

On the analogue board, the video signal is internally routed back to the digital board.

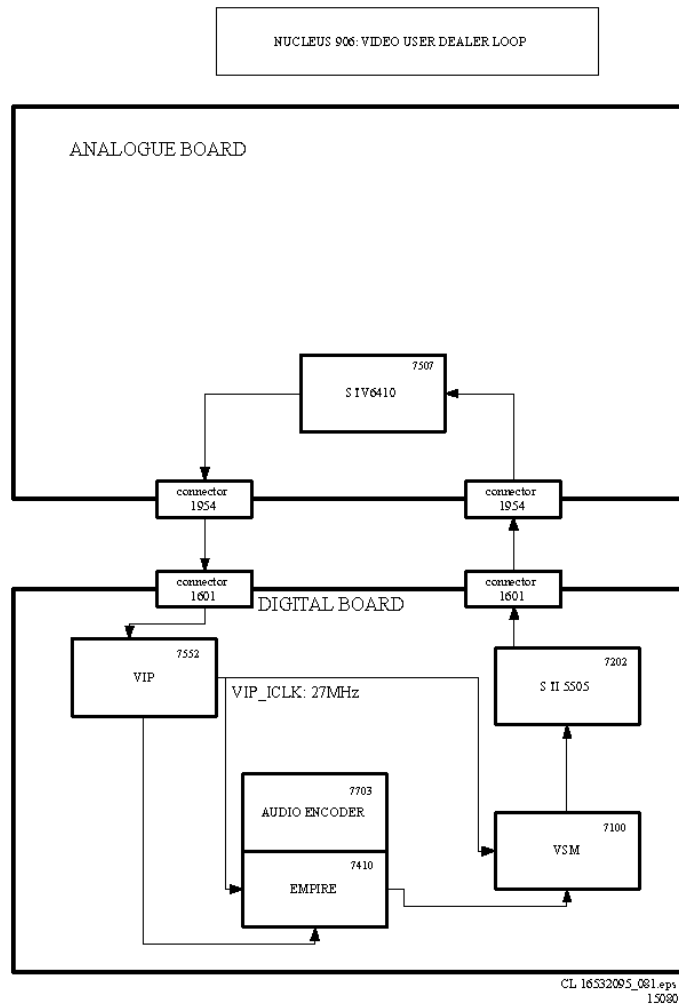


Figure 5-15

### 5.5.8 Nucleus 907: Video VBI User Dealer Loop

This nucleus tests the components on the video VBI signal path:

- The VIP
- The VSM
- The Host Decoder

The signal is routed back internally on the analogue board

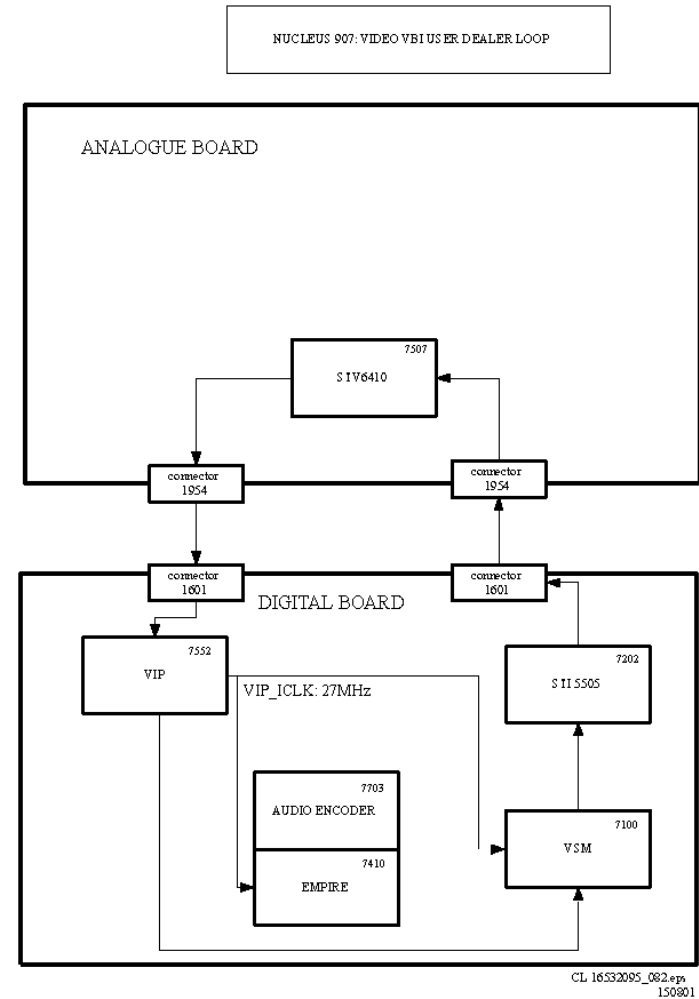


Figure 5-16

### 5.5.9 Nucleus 908: System Audio Loop Scart

Nucleus for testing the components on the audio signal path:

- The hostdecoder
- The analogue board
- The audio encoder
- The VSM

On the analogue board, audio is passed to the SCART connector, where a SCART cable needs to be used to loop back the audio signal to the digital board

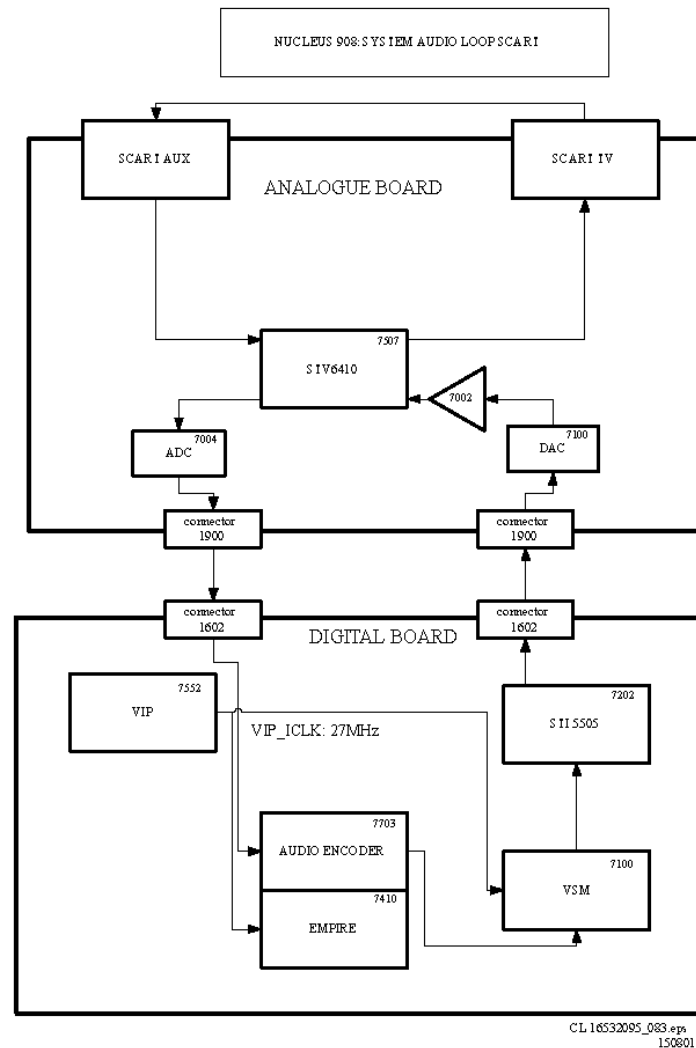


Figure 5-17

### 5.5.10 Nucleus 909: System Audio Loop CINCH

Nucleus for testing the components on the audio signal path:

- The hostdecoder
- The analogue board
- The audio encoder
- The VSM

On the analogue board the audio is passed to the CINCH connector, where a CINCH cable needs to be used to loop back the audio signal to the digital board

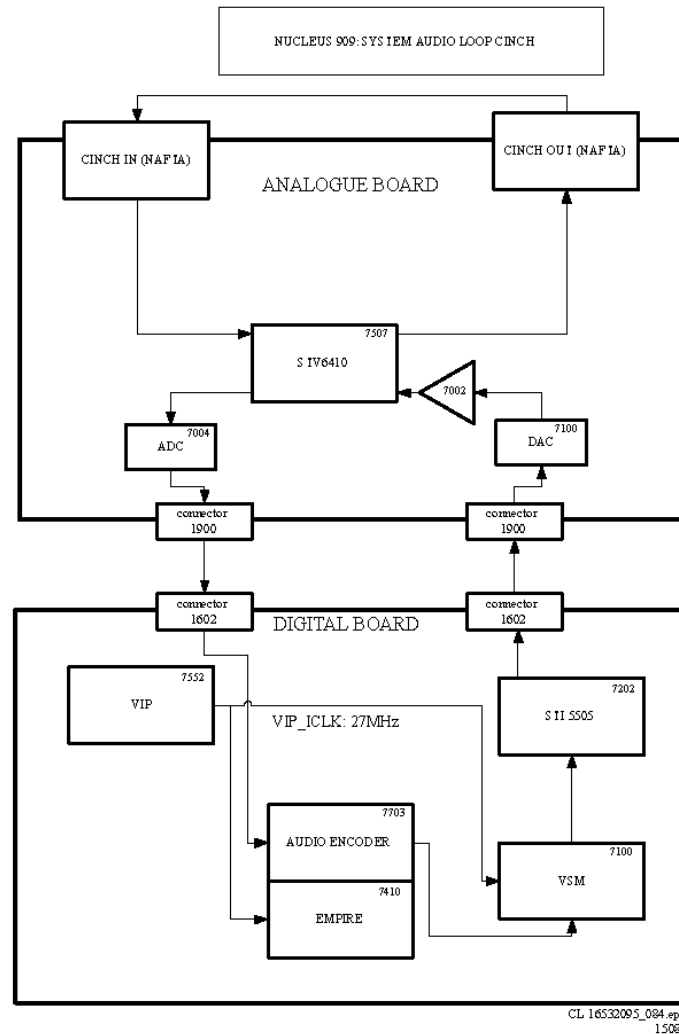
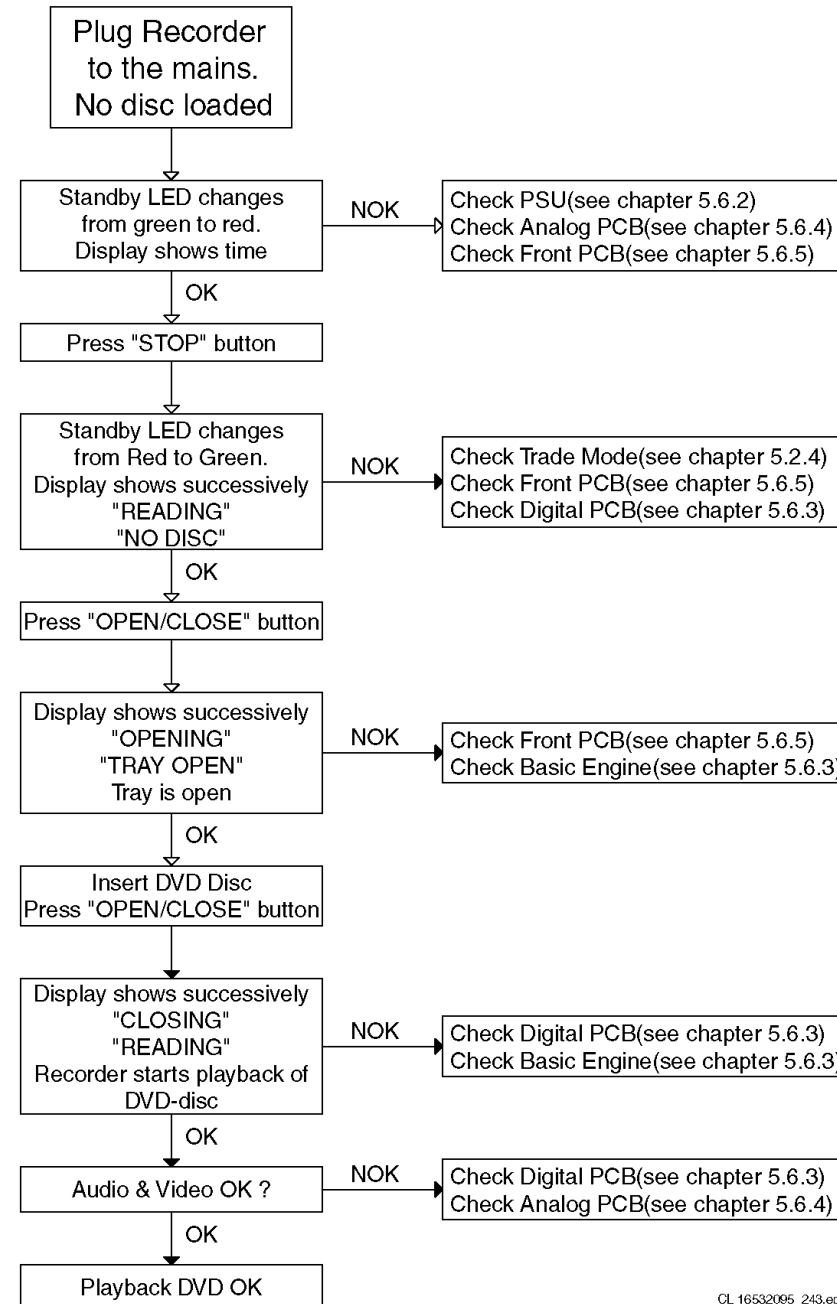
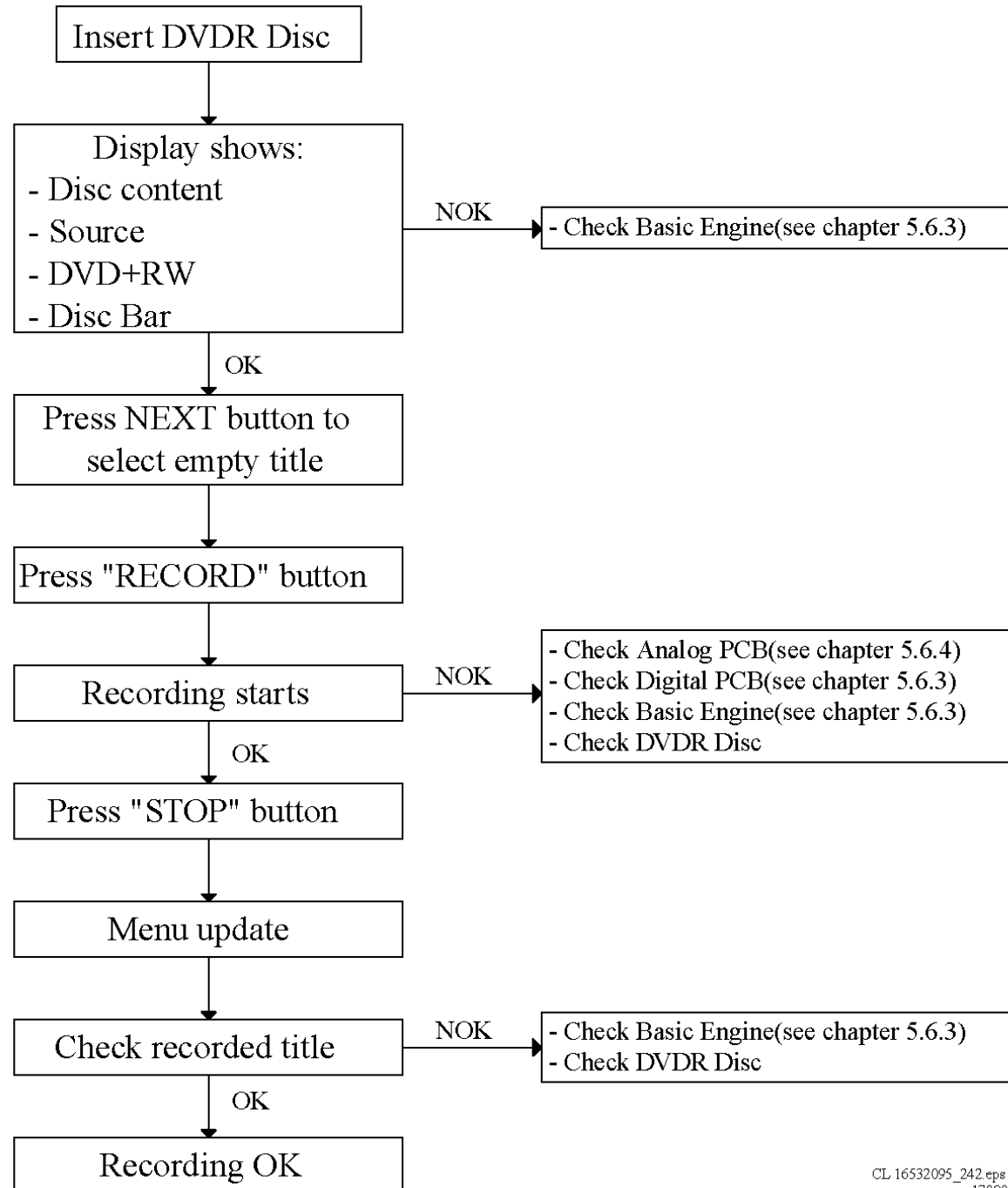


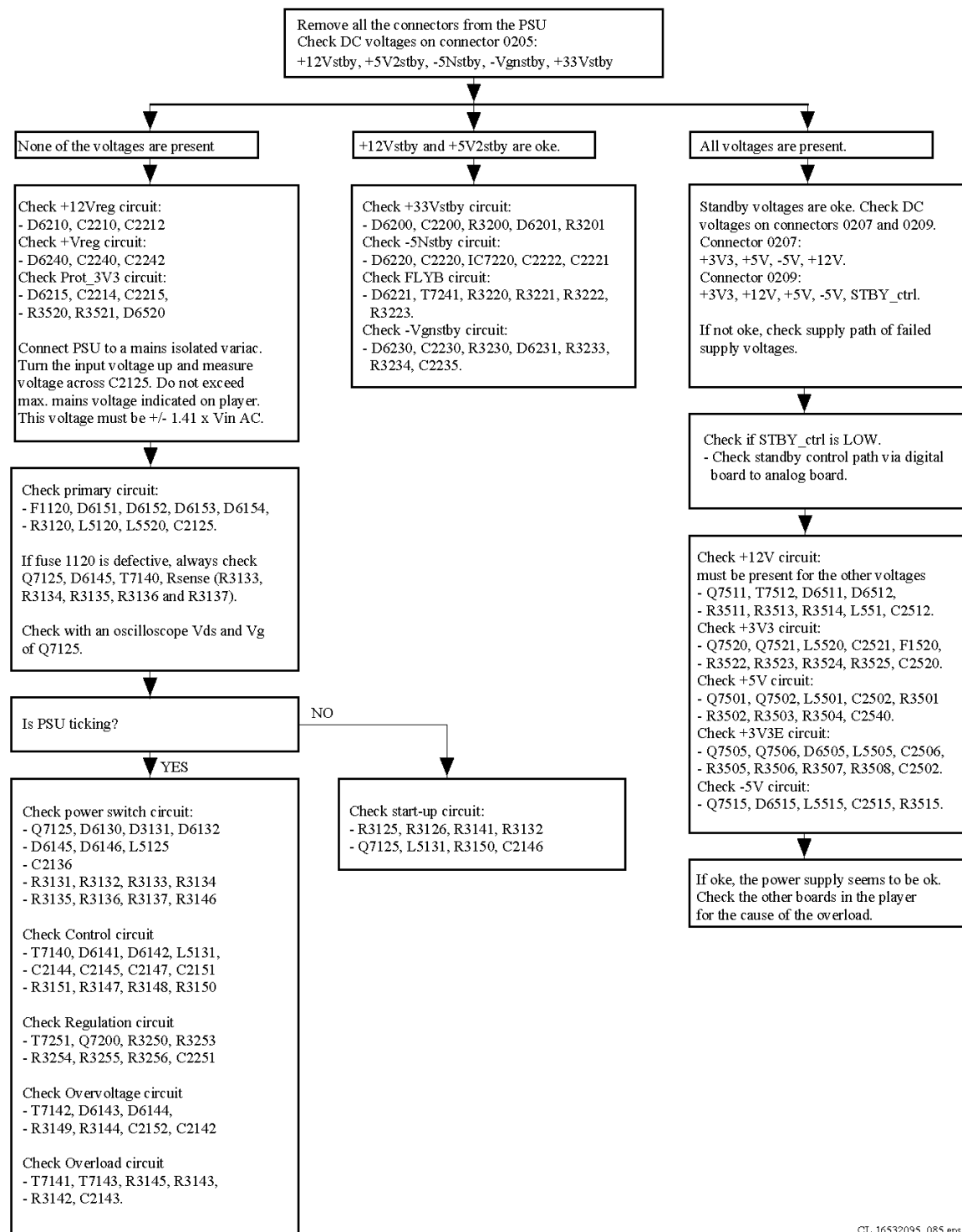
Figure 5-18

## PLAYBACK MODE



# RECORD MODE







## Start-Up DSW

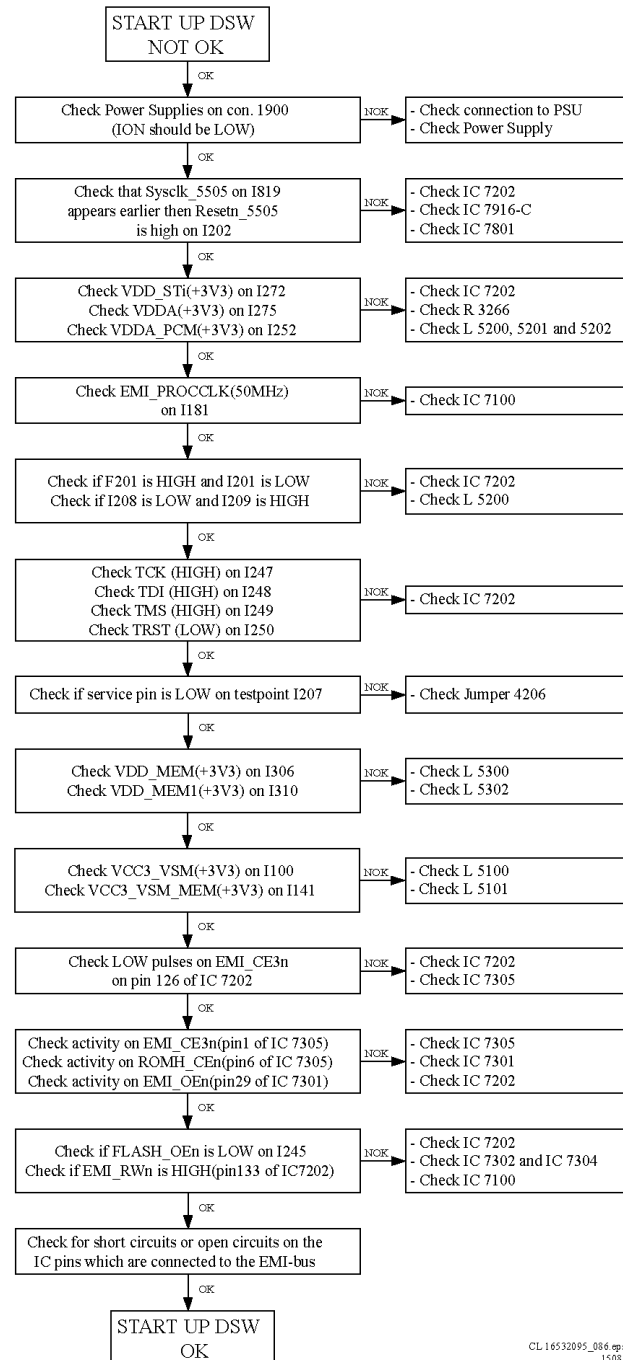


Figure 5-20

## POWER PART CHECK DIGITAL BOARD

USE DIGITAL BOARD CIRCUIT DIAGRAMS 1 2, 3, 4, 5, 7 AND 8 AND DIGITAL BOARD BOTTOM VIEW TESTPOINTS

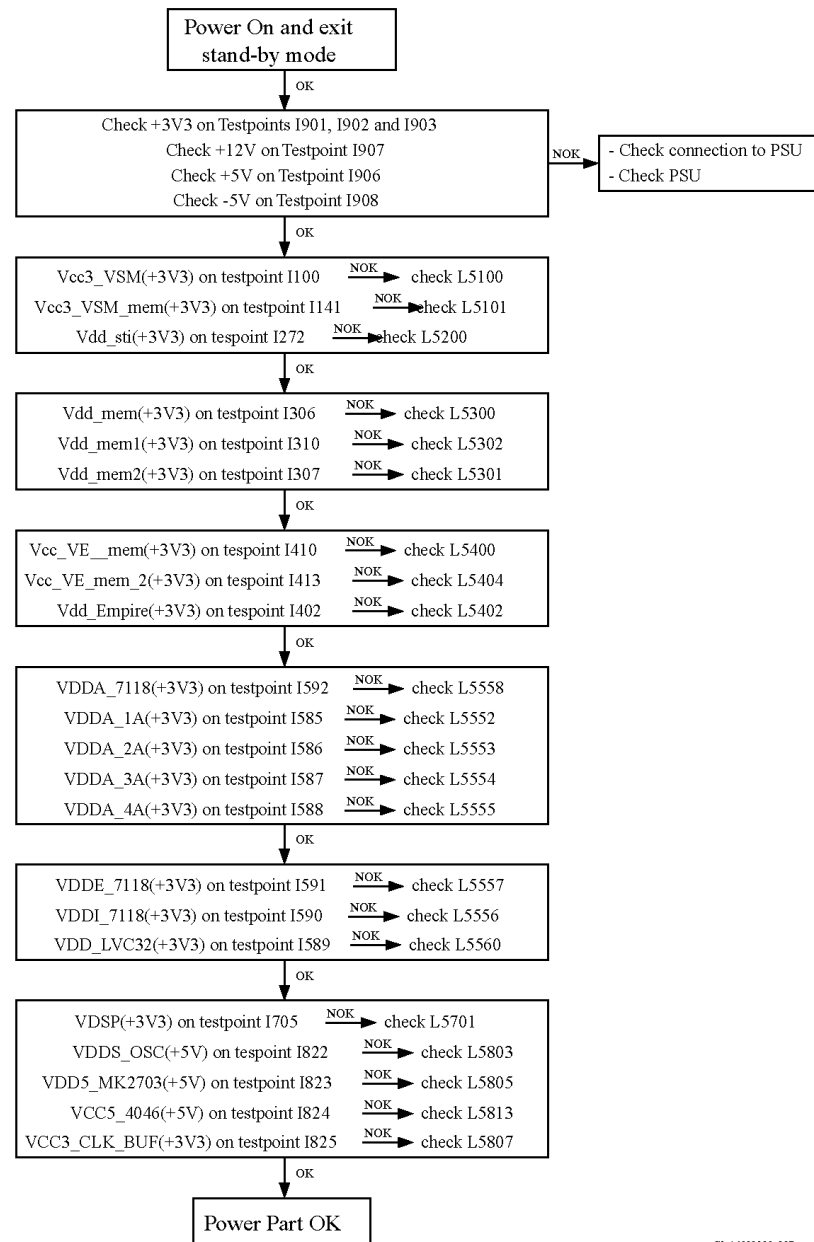


Figure 5-21

## RESET &amp; CLOCK CHECK DIGITAL BOARD

USE DIGITAL BOARD CIRCUIT DIAGRAMS 1,2,7 AND 8 AND DIGITAL BOARD BOTTOM VIEW TESTPOINTS

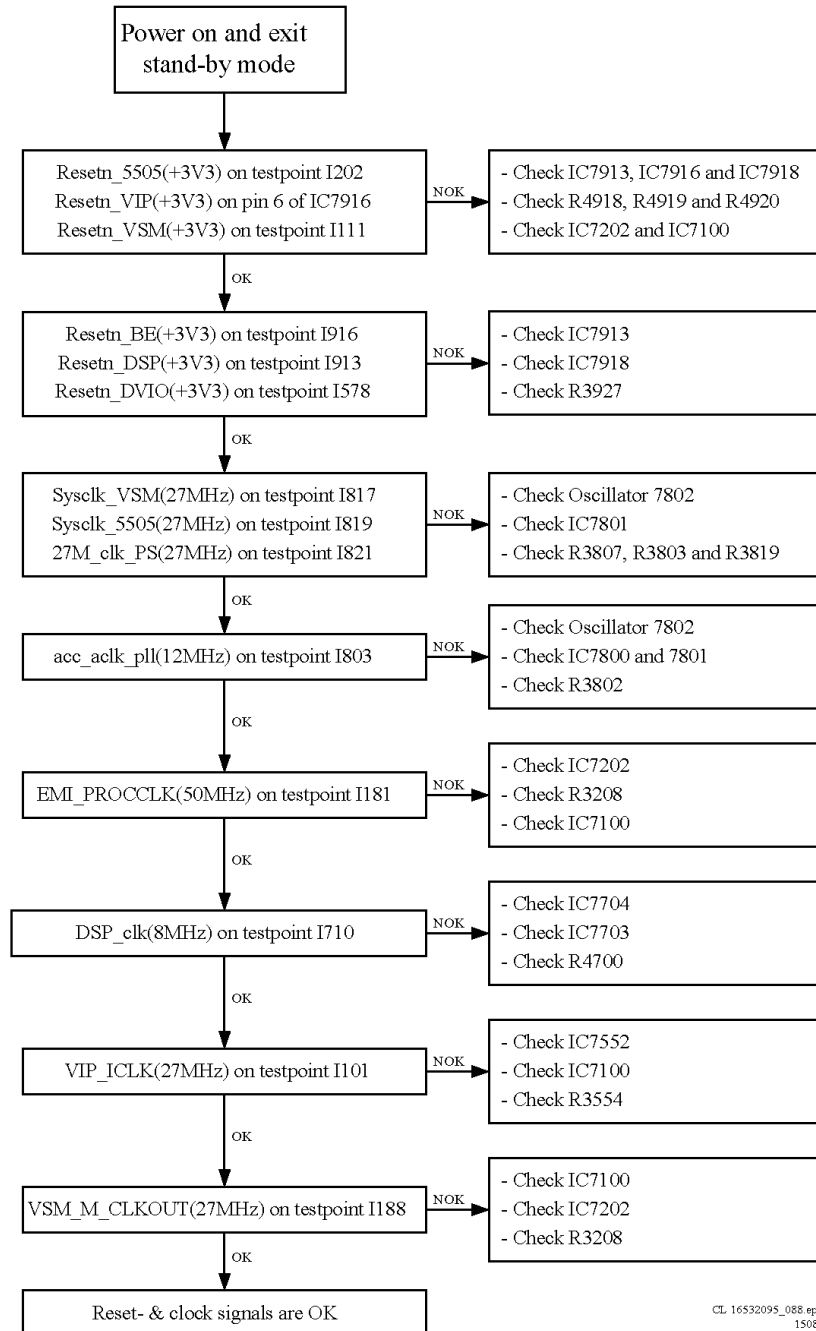
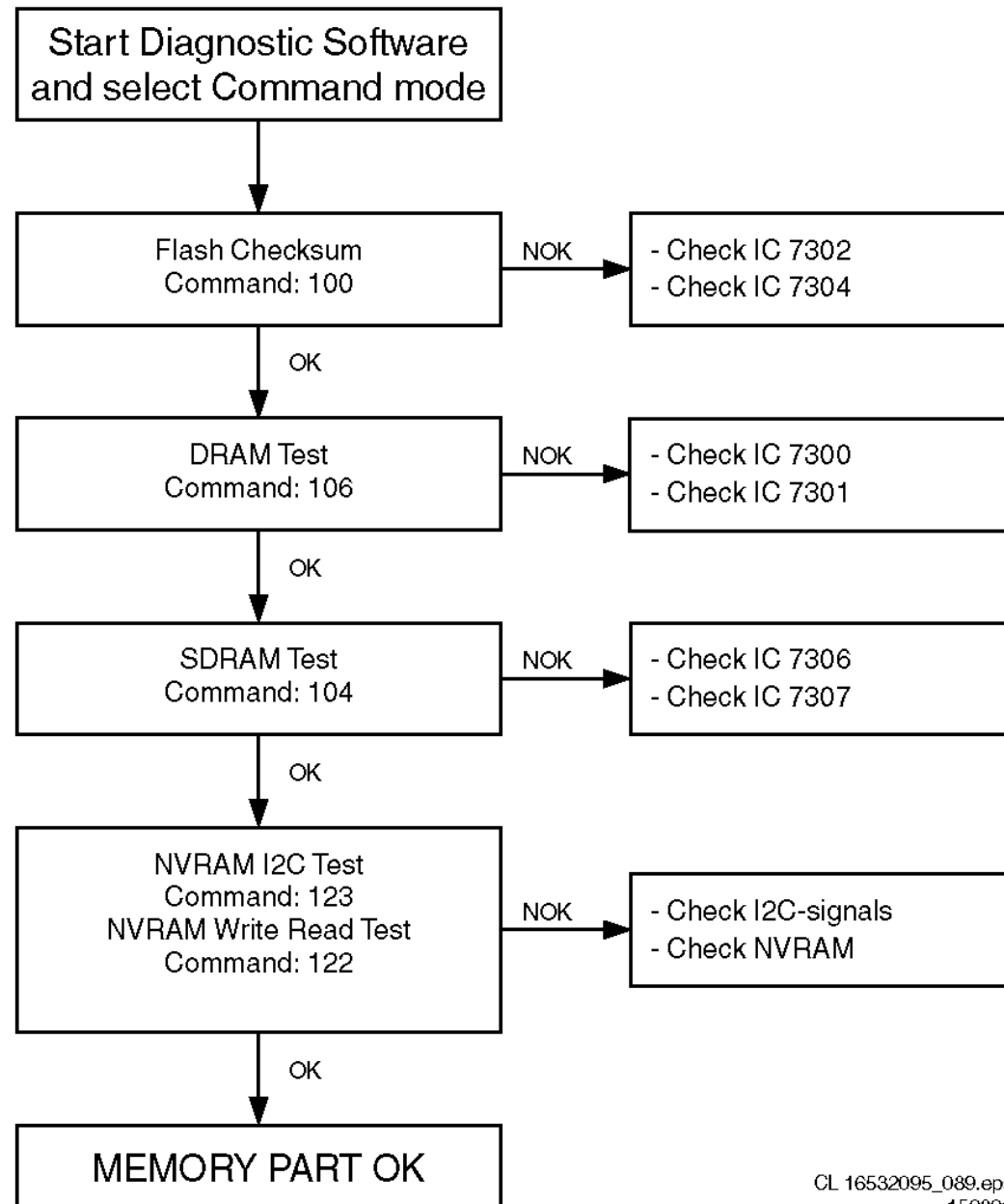


Figure 5-22

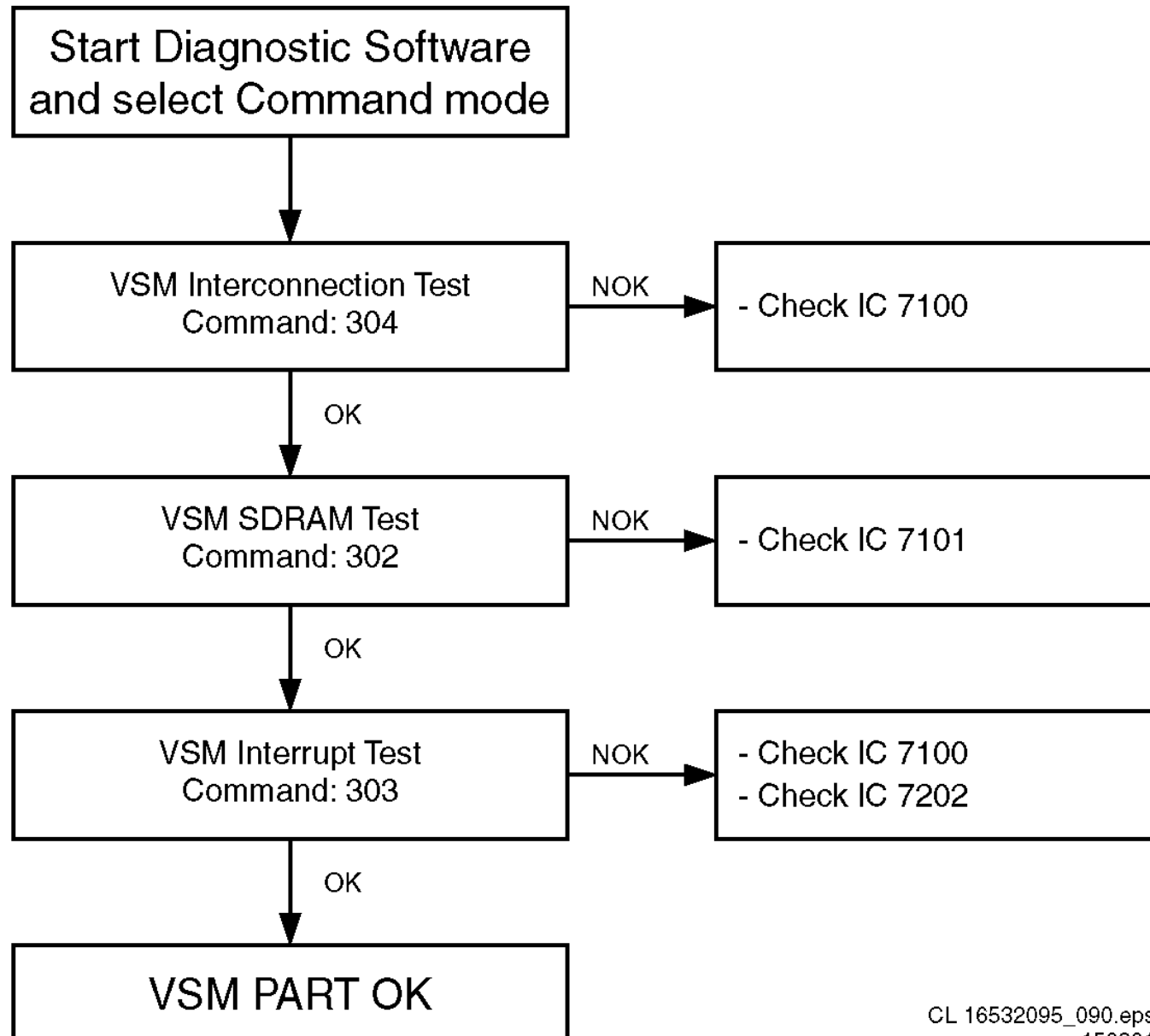
## DSW MEMORY TESTS



CL 16532095\_089.eps  
150801

Figure 5-23

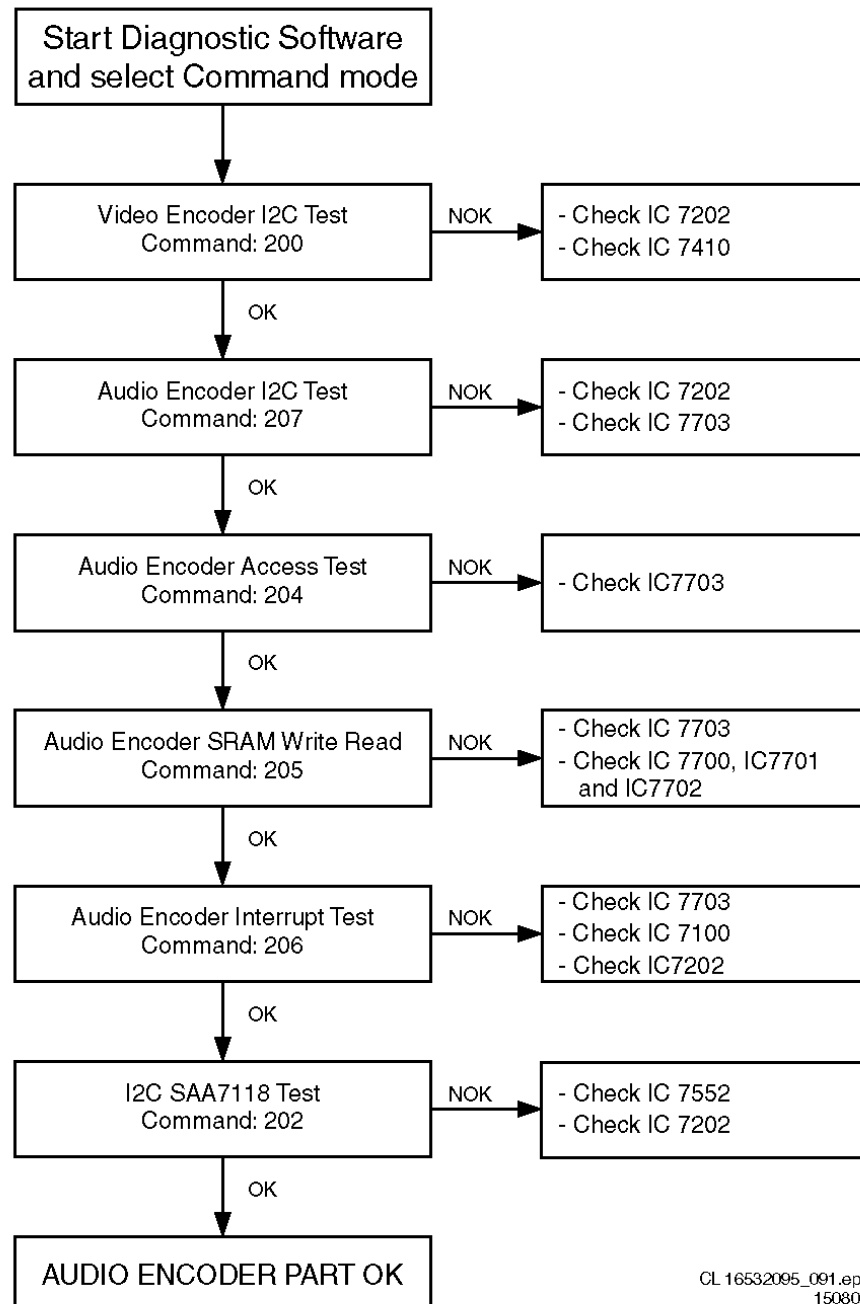
# DSW VSM TESTS



CL 16532095\_090.eps  
150801

Figure 5-24

# DSW AUDIO VIDEO ENCODER TESTS



CL 16532095\_091.eps  
150801

Figure 5-25

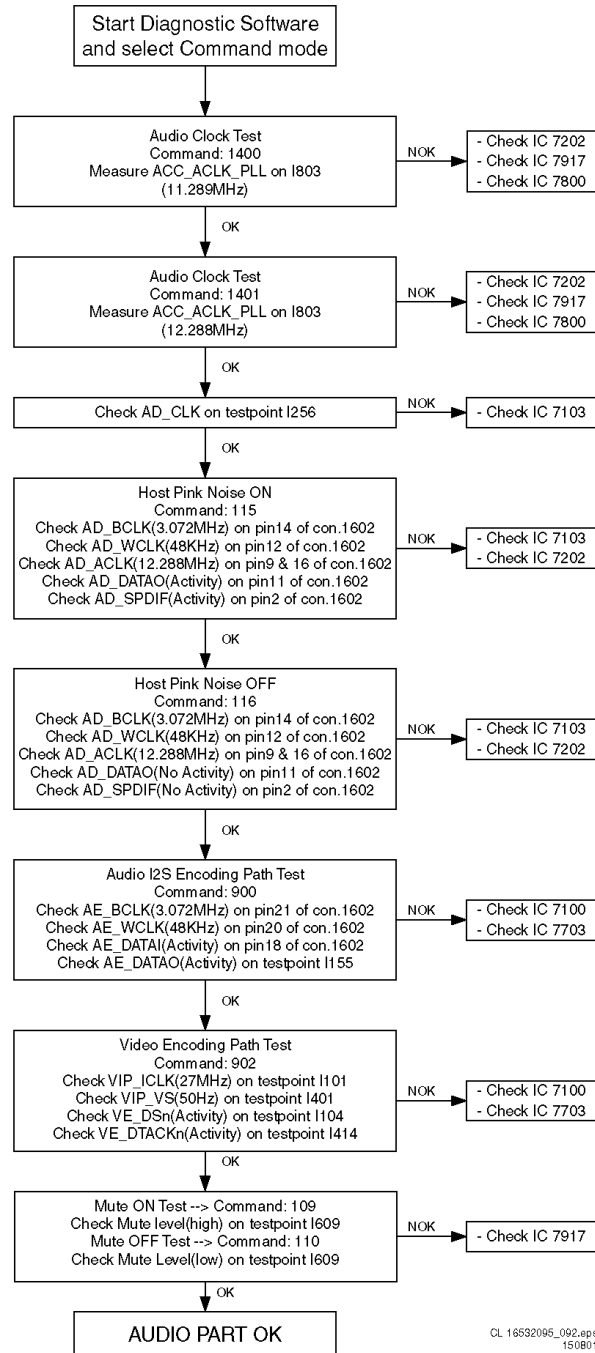
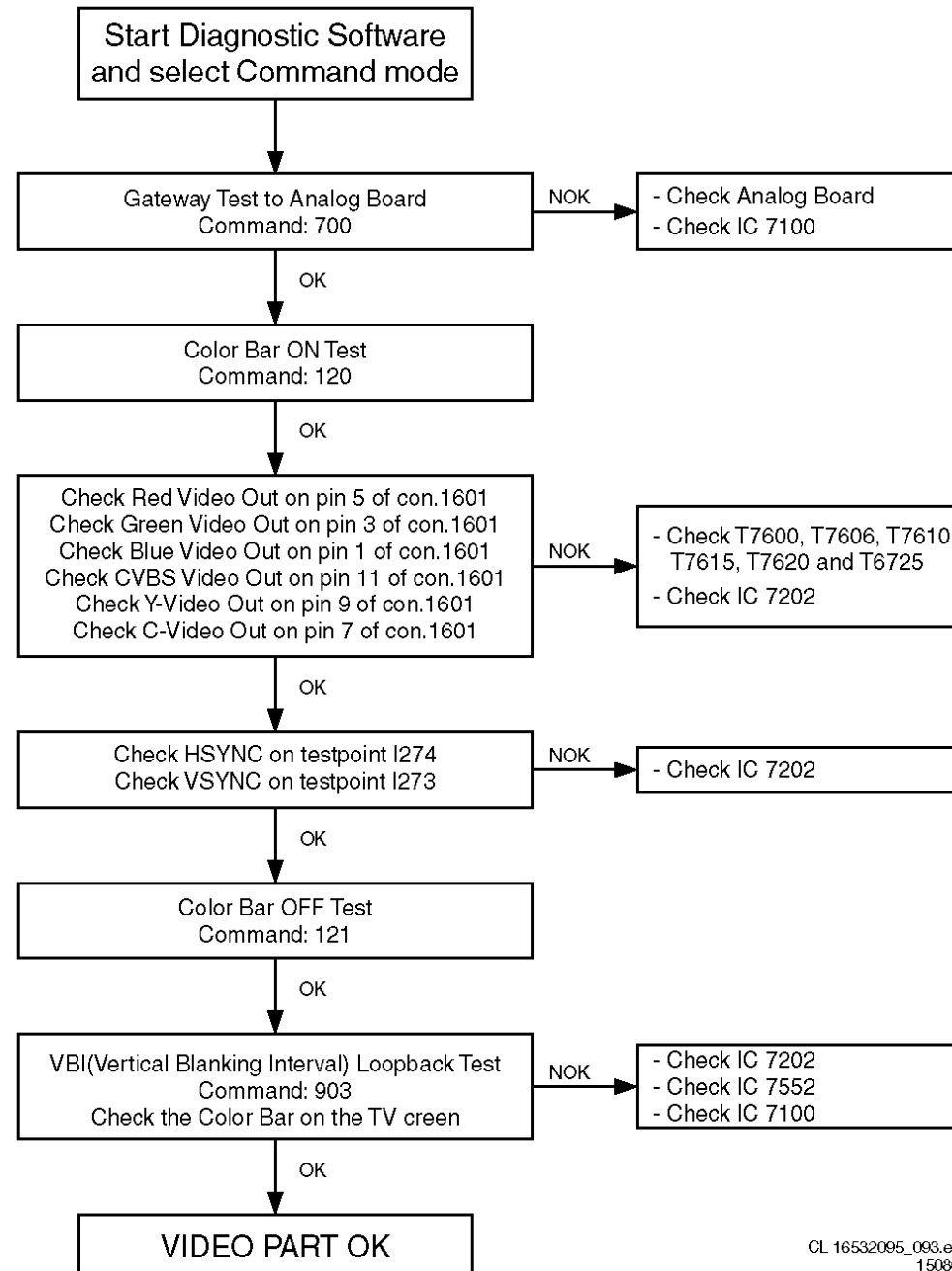
**DSW AUDIO PART CHECK**CL 16532095\_092.eps  
150801

Figure 5-26

# DSW VIDEO PART CHECK

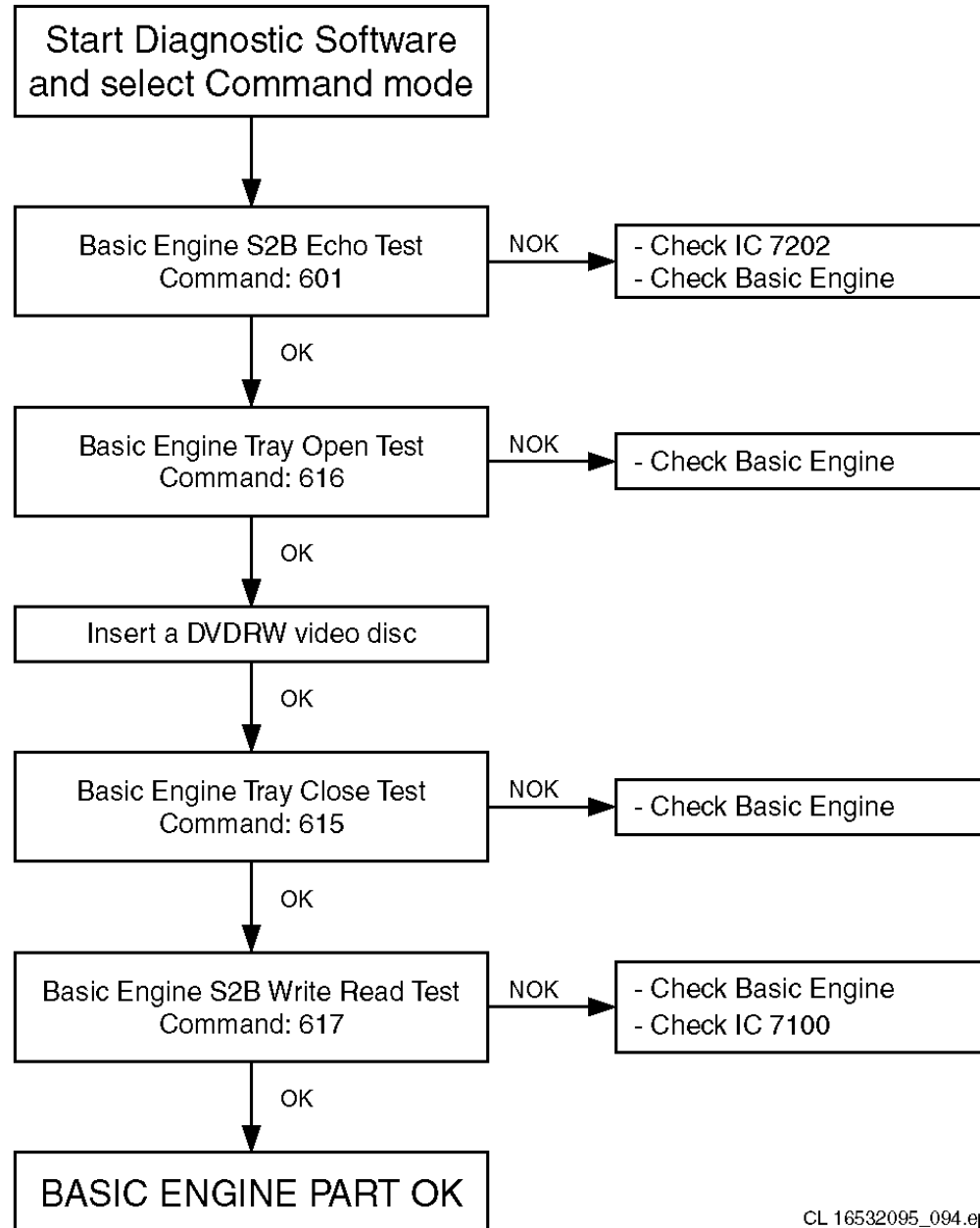


CL 16532095\_093.eps  
150801

Figure 5-27



## DSW BASIC ENGINE TESTS



CL 16532095\_094.eps  
150801

Figure 5-28

# Waveforms Digital Board

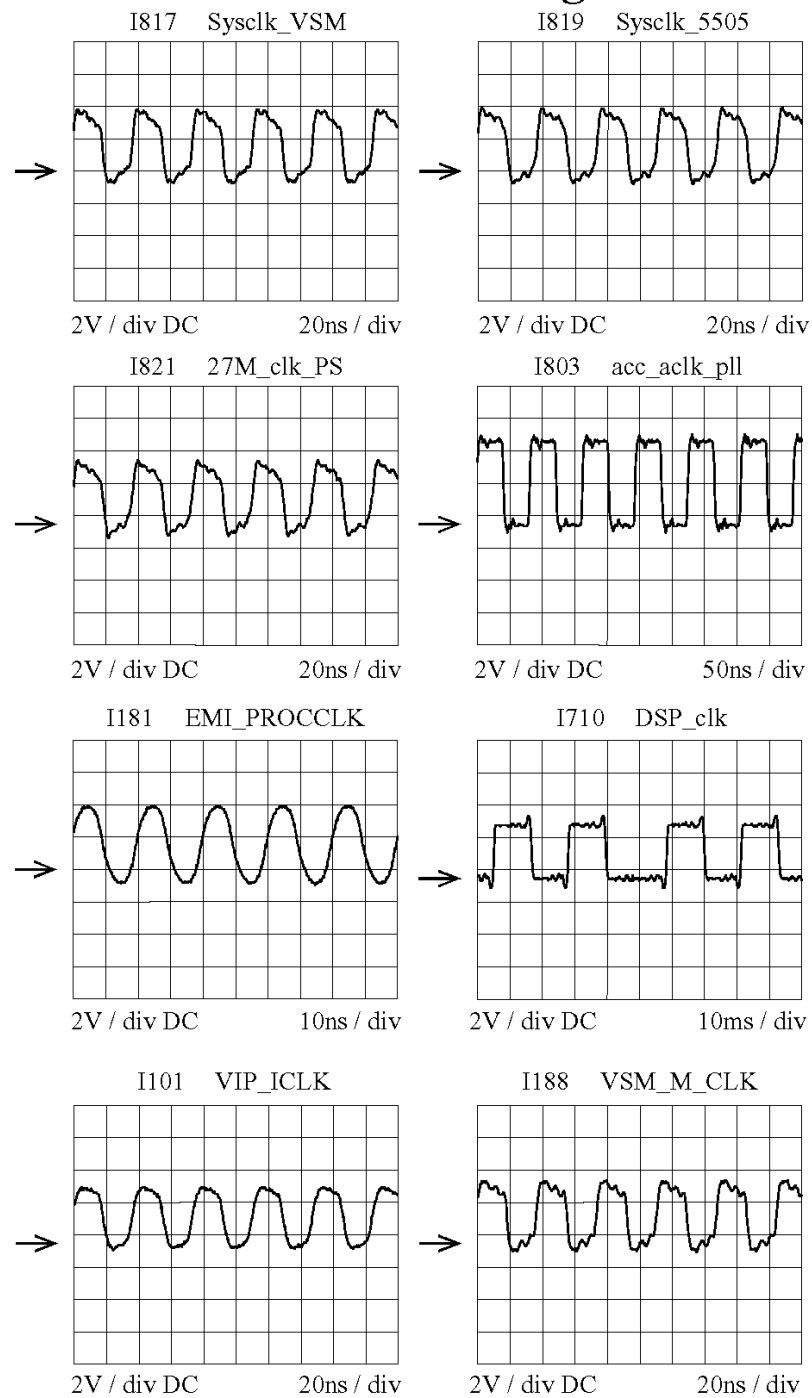


Figure 5-29

# Waveforms Digital Board

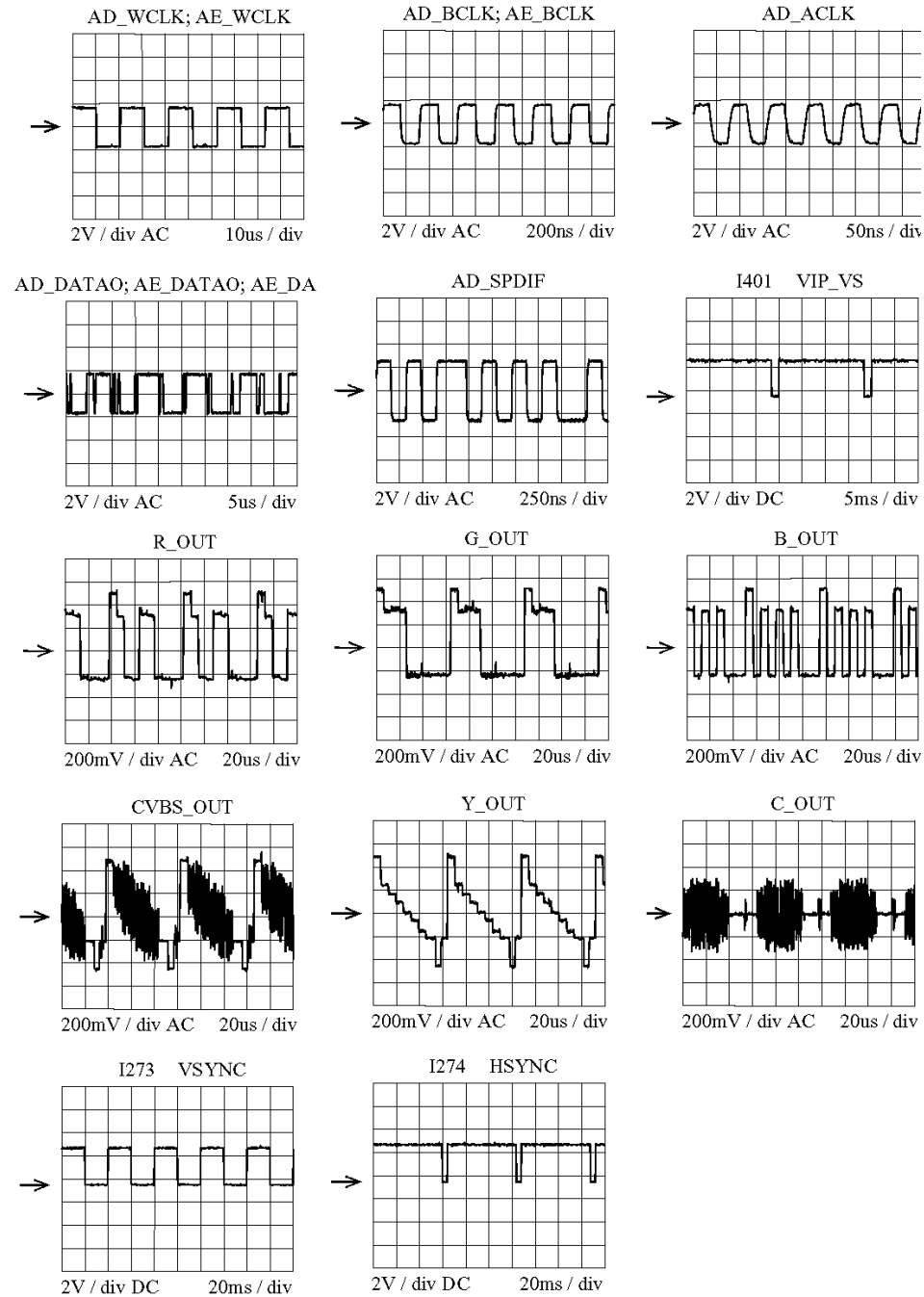


Figure 5-30

## Measurement Point Overview for NAFTA

MP	X	Y	Signal Name	Signal Description	Signal Type	Part	Schematics Name	Coord.
F800			F_MODE	Fact. Mode	Condition	AIO1	AIO1	C10
F3201			12V	12 V Supply	PS IN	1932 1	PS	C1
F3202			5V	5 V Supply	PS IN	1932 2	PS	C1
F3203			5NSTBY	5 V Supply	PS IN	1932 3	PS	C1
F3204			VGNSTBY	Supply GND	PS IN	1932 4	PS	C1
F3205			33STBY	33 V Supply	PS IN	1932 5	PS	D1
F3206			FLYB	Controls PS	DC Gen	1932 6	PS	D1
F3207			GND A	Ground Analogue	GND	1932 7	PS	D1
F0017			3VD	3V3 Supply	PS IN	1900 17	DAC	B1
F0001			GNDD	Ground Digital	GND	1900 01	DAC	E1
F803			INT Clock	Clock Adjust	Count Out	7811 7	AIO1	H5
F900			5STBY2	5V AIO	DC Out	7803 12	AIO2	D3
F902			IReset	Inverse Reset	DC Out *	7803 115	AIO2	D2
F8111			5M	5 V Motor	DC Out	1987 12	AIO1	F14
F303			5SW	5SW	DC Out	7703 21	TU	B10
F9336			8SW	8SW	DC Out	2321	PS	B6
F8105			SDA	IIC1	IIC IO	1981 6	AIO1	E13
F8107			SCL	IIC1	IIC IO	1981 8	AIO1	E13
F810			SCL1	IIC2	IIC IO	3804	AIO1	A9
F811			SDA1	IIC2	IIC IO	3805	AIO1	A9
F8104			IPOR1	IPOR to DC	DC OUT	1981 5	AIO1	E13
F8101			12STBY	12 V to DC	DC Out	1981 2	AIO1	D13
F8110			5STB	5 V to DC	DC Out	1981 11	AIO1	F13
F5306			8SW	8 SW to FRONT	DC Out	1953 6	IO1	I1
F8102			VGNSTBY	VGN to DC	GND	1981 3	AIO1	E13
F8202			A_DATA	To DIGI	DC_In	1982 2	AIO1	H13
F8203			D_DATA	To DIGI	DC_In	1982 3	AIO1	H13
F8204			A_RDY	To DIGI	DC_In	1982 4	AIO1	H13
F8205			D_RDY	To DIGI	DC_In	1982 5	AIO1	H13
F8108			INT	TO DC	DC_In	1981 9	AIO1	F13
F8109			RC	TO DC	DC_In	1981 10	AIO1	F13
F8201			IRESET_DIG	TO DIGI	DC_In	1982 1	AIO1	H13
F5103			ARIn_2	A R IN 2	NF IN	1958 3A	IO3	E13
F5101			ALIn_2	A L IN 2	NF IN	1958 1A	IO3	E14
F5906			GNDV	GND V	GND	1957 6A	IO1	H12
F5806			GNDV	GND V	GND	1956 6A	IO1	I8
F510			ARout_1	A R Out 1	NF Out	1959 5B	IO1	E13
F509			ALout_1	A L Out 1	NF Out	1959 4B	IO1	D13
F5201			RCVBSOut2	SC1 Y Out	V Out	1997 1B	IO3	A8
F5105			ARIn_1	A R IN 1	NF IN	1959 1A	IO2	E2
F5104			ALIn_1	A L IN 1	NF IN	1959 4A	IO2	E2
F5202			RCVBSIn	Y IN	Sin IN	1997 2A	IO2	C2
F5905			Y_OUT	Y Out	Sin Out*	1957 5A	IO1	I12
F5801			U_IN	U IN	Sin In*	1956 1B	IO1	I10
F5805			Y_IN	Y IN	Sin In	1956 5A	IO1	I9
F5802			V_IN	V IN	Sin In	1956 2B	IO1	I10

MP	X	Y	Signal Name	Signal Description	Signal Type	Part	Schematics Name	Coord.
F5401			A_V	A_V to DIGI	Sin Out	1954 01	IO1	I3
F5402			GNDV	GNDV to DIGI	GND	1954 02	IO1	I4
F5403			A_U	A_U to DIGI	Sin Out	1954 03	IO1	I4
F5405			A_Y	A_Y to DIGI	V Out	1954 05	IO1	I4
F5407			A_C	A_C to DIGI	Sin Out	1954 07	IO1	I4
F5409			A_YCVBS	AYCVBS to DIGI	V Out	1954 09	IO1	I4
F5412			D_CVBS	D_CVBS f. DIGI	V In	1954 12	IO1	I5
F5414			D_Y	D_Y f. DIGI	V In	1954 14	IO1	I5
F5416			D_C	D_C f. DIGI	Sin In	1954 16	IO1	I5
F5418			D_R	D_T f. DIGI	Sin In	1954 18	IO1	I6
F5420			D_G	D_G f. DIGI	Sin In	1954 20	IO1	I6
F5422			D_B	D_B f. DIGI	Sin In	1954 22	IO1	I6
F5301			AFCRI	A R from FC	NF In	1953 1	IO1	I1
F5303			AFCLI	A L from FC	NF In	1953 3	IO1	I1
F5304			CVBSFIN	CVBS from FC	V In	1953 4	IO1	I1
F5307			CFIN	C from FC	Sin In	1953 7	IO1	I2
F5309			YFIN	Y from FC	V In	1953 9	IO1	I2
F012			DAINOPT	A D Opt to DIGI		1900 20	DAC	A1
F013			DAINCOAX	A D Coax to DIGI		1900 21	DAC	A1
F014			DAOUT	A D from DIGI		1900 20	DAC	A1
F0002			A_BCLK	BCLK from DIGI	CLK In	1900 2	DAC	E2
F0003			A_WCLK	WCLK from DIGI	CLK In	1900 3	DAC	D2
F0005			A_DAT	A Data to DIGI	Data Out	1900 5	DAC	D2
F0007			A_PCMCLK	PCMCLK from DIGI	CLK In	1900 7	DAC	D2
F0009			D_BCLK	BCLK from DIGI	CLK In	1900 9	DAC	D2
F0011			D_WCLK	WCLK from DIGI	CLK In	1900 11	DAC	D2
F0012			D_DATA0	A Data from DIGI	Data In	1900 12	DAC	C2
F0014			D_PCMCLK	PCMCLK from DIGI	CLK In	1900 14	DAC	C2
F0016			D_KILL	A Kill from DIGI	DC In	1900 16	DAC	C2
F010			ARDAC	A R from DAC	NF Out	7002 1	DAC	C9
F011			ALDAC	A L from DAC	NF Out	7002 7	DAC	E9
F513			ALOut_2	A L Rear Out 2	NF Out	1958 4B	IO1	B13
F512			AROut_2	A R Rear Out 2	NF Out	1958 5B	IO1	C13
F5205			RCVBSOut1	V Rear Cinch Out1	V Out	1997 5C	IO3	A8
F5503			RSVHSYIn	Y Rear SVHS In	V In	1955 3B	IO2	B2
F5504			RSVHSCIn	C Rear SVHS In	Sin In	1955 4B	IO2	B2
F338			RSVHSYOut	Y Rear SVHS Out	V Out	1955 3A	IO3	A9
F337			RSVHSCOut	C Rear SVHS Out	Sin Out	1955 4A	IO3	A9
F6001			DVAR	A R from DIGI	Sin In	1960 1	AP	D1
F6002			GND A	GND A	GND	1960 2	AP	D1
F6004			DVAL	A L from DIGI	Sin In	1960 4	AP	D1
F700			IF	IF Out	DC Out	1705 11	TU	C3
F701			IF In	IF In	Sin In	1705 11	TU	C3
F702			GND FV	GND FV	GND	1705 12	TU	C2
F703			GND FV	GND FV	GND	1700 3	TU	B6
F705			AGC	AGC	DC Out	3701	TU	A4
F812			SYNC	SYNC from Sepa.	Freq Out	7803 33	AIO1	F6
F330			RC IN	Remote Control In	DC Out	1993 2	IO3	E2

MP	X	Y	Signal Name	Signal Description	Signal Type	Part	Schematics Name	Coord.
F4202			DIG OUT L	Digital Out Low	GND	1954 2	DIGI	B4
F4203			DIG OUT H	Digital Out High	Sin Out	1945 3	DIGI	A4
F4204			OPT OUT	Optical Out	DC Out	1943 1	DIGI	D3
F806			FAN OUT	FAN Out	DC Out	1984 1	FACO	C5
F807			FAN IN	FAN In	DC In	1985	FACO	F1
F8206			ION	ION_FAN	DC Out	1982 6	AIO1	H13
F8208			BE_FAN	BE_FAN	DC Out	1982 8	AIO1	I13
F8209			FB	FBIN SC2	DC Out	1982 9	AIO1	I13
F8210			GNDD	GNDD	GNDD	1982 10	AIO1	I13

Remark:  
Indicator \* means more than one signal type

# RESET AND CLOCK CHECK ANALOG BOARD

Check internal Power supply voltages

5M on testpoint F9340	NOK →	check Fuse 1327
12STBY on testpoint F810	NOK →	check Fuse 1326
8STBY on pin 3 of IC7332	NOK →	check IC 7332
8SW on testpoint F9336	NOK →	check - ISTBY HIGH? - T7329, T7324, MOSFET7321
5STBY on testpoint F9333	NOK →	check Fuse 1325
5SW on testpoint F303	NOK →	check - ISTBY HIGH? - T7329, T7324, MOSFET7323
5STBY2 on testpoint F900	NOK →	check L5901, IC7900
5STBY_uP on IC7803	NOK →	check L5903, IC7803

OK

**Power Part OK**

Figure 5-34

## DSW CHECK ANALOGUE BOARD

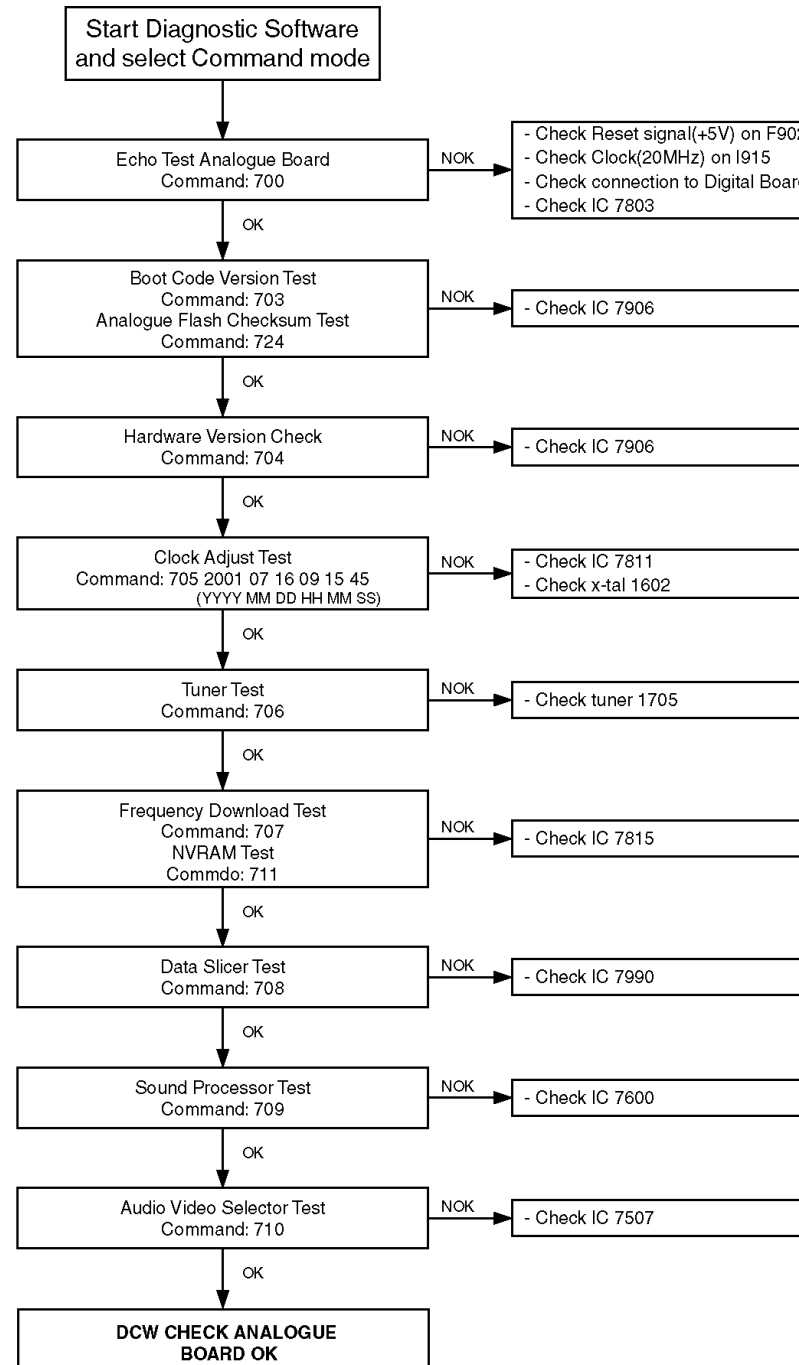


Figure 5-35

# Routing Audio and Video

## Route Video

Nucleus Number: 712

Description

This nucleus routes the video signals on the analogue board to the destination determined by the input parameters  
The paths that are available for video routing and their description(Europe version)

P	TH ID	DESCRIPTION
	00	Input signal is VIDEO(CVBS) from dig tal board and will be re-routed back to the d g tal board.
	01	Input signal is from FRONT VIDEO(CVBS) IN and will be routed to the dig tal board.
	02	Input signal is from REAR VIDEO(CVBS) IN and will be routed to the digital board.
	03	Input signal is from FRONT S-VIDEO(Y/C) and will be routed to the digital board.
	04	Input signal is from REAR S-VIDEO(Y/C) and will be routed to the d gital board.
	05	Input signal is CVBS from SCART1 and will be routed to the dig tal board.
	06	Input signal is CVBS from SCART2 and will be routed to the dig tal board.
	07	No rout ng.
	08	Input signal is VIDEO(CVBS) from ANTENNA IN and will be routed to SCART1.
	09	Input signal is VIDEO(CVBS) from SCART1 and will be routed to SCART2.
	10	Input signal is VIDEO(CVBS) from SCART2 and will be routed to SCART1.
	11	No rout ng.
	12	Input signal is from REAR VIDEO(CVBS) IN and will be routed to SCART1 and SCART2.
	13	Input signal is from FRONT VIDEO(CVBS) IN and will be routed to SCART1.
	14	Input signals VIDEO(CVBS and Y/C) from SCART 1 will be routed to SCART2.
	15	Input signal is from REAR S-VIDEO(Y/C) IN and will be routed to SCART2.
	16	Input signal is from FRONT S-VIDEO(Y/C) IN and will be routed to SCART2.
	17	No rout ng
	18	No rout ng
	19	Input signals VIDEO(RGB and FAST BLANKING) from SCART2 will be routed to the correspond ng p ns of SCART1.

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The paths that are available for video routing and their description (Nafta region)

Path ID	Descr pt on
00	Input signal is VIDEO(CVBS) from dig tal board and will be re-routed back to the d g tal board.
01	Input signal is from FRONT VIDEO(CVBS) IN and will be routed to the dig tal board.
02	Input signal is from REAR VIDEO(CVBS) IN and will be routed to the digital board.
03	Input signal is from FRONT S-VIDEO(Y/C) IN and the s gnal received will be routed to the d g tal board.
04	Input signal is from REAR S-VIDEO(Y/C) IN and will be routed to the digital board.
05	Input signal is from YUV IN and will be routed to the digital board.
06	No rout ng.
07	No rout ng.
08	Input signal is VIDEO(CVBS) from ANTENNA IN and will be routed to VIDEO(CVBS) OUT and .
09	Input signal is from YUV IN and will be routed to YUV OUT.
10	No rout ng.
11	No rout ng.
12	Input signal is from REAR VIDEO(CVBS) IN and will be routed to REAR VIDEO(CVBS) OUT.
13	Input signal is from FRONT VIDEO(CVBS) IN and will be routed to REAR VIDEO(CVBS) OUT.
14	Input signal is from REAR S-VIDEO(Y/C) IN and will be routed to REAR S-VIDEO(Y/C) OUT.
15	Input signal is from FRONT S-VIDEO(Y/C) IN and will be routed to REAR S-VIDEO(Y/C) OUT.

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140801

Example

DD:> 712 01

71200: Video routing on the Analogue Board OK.

Test OK @



### Route Audio

Nucleus Number: 713

#### Description

This nucleus routes the audio on the analogue board to the destination determined by the input parameters

The paths that are available for audio routing and their description (Europe version)

Path ID	Description
00	Input signal is VIDEO(CVBS) from digital board and will be re-routed back to the digital board.
01	Input signal is from FRONT AUDIO IN and will be routed to the digital board.
02	Input signal is from REAR AUDIO IN and will be routed to the digital board.
03	Input signal is AUDIO from SCART1 and will be routed to the digital board.
04	Input signal is AUDIO from SCART2 and will be routed to the digital board.
05	No routing.
06	No routing.
07	No routing.
08	Input signal is VIDEO(CVBS) and AUDIO from ANTENNA IN and will be routed to SCART1.
09	Input signal is VIDEO(CVBS) and AUDIO from SCART1 and will be routed to SCART2.
10	Input signal is VIDEO(CVBS) and AUDIO from SCART2 and will be routed to SCART1.
11	Input signal is AUDIO from dvio board and will be routed to SCART1.
12	No routing.
13	No routing.
14	No routing.
15	No routing.
16	No routing.
17	Input signal is from REAR AUDIO IN and will be routed to SCART1.
18	Input signal is from FRONT AUDIO IN and will be routed to SCART1.

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140801

The paths that are available for audio routing and their description (Nafta region)

Path ID	Description
00	Input signal is VIDEO(CVBS) from digital board and will be re-routed back to the digital board.
01	Input signal is from FRONT AUDIO IN and will be routed to the digital board.
02	Input signal is from REAR AUDIO IN 1 and will be routed to the digital board.
03	Input signal is from REAR AUDIO IN 2 and will be routed to the digital board.
04	No routing.
05	No routing.
06	No routing.
07	No routing.
08	Input signal is VIDEO(CVBS) and AUDIO from ANTENNA IN and will be routed to VIDEO(CVBS) OUT and REAR CINCH OUT 2.
09	No routing.
10	Input signal is from REAR AUDIO CINCH IN 1 and will be routed to REAR AUDIO CINCH OUT 2.
11	Input signal is from FRONT AUDIO CINCH IN and will be routed to REAR AUDIO CINCH OUT 2.
12	No routing.
13	No routing.
14	No routing.
15	No routing.
16	Input signal is AUDIO from dvio board and will be routed to AUDIO CINCH OUT 2.

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140801

#### EXAMPLE

DD:> 713 00

71300: Audio routing on the Analogue Board OK.

Test OK @

## TROUBLESHOOTING DISPLAY BOARD

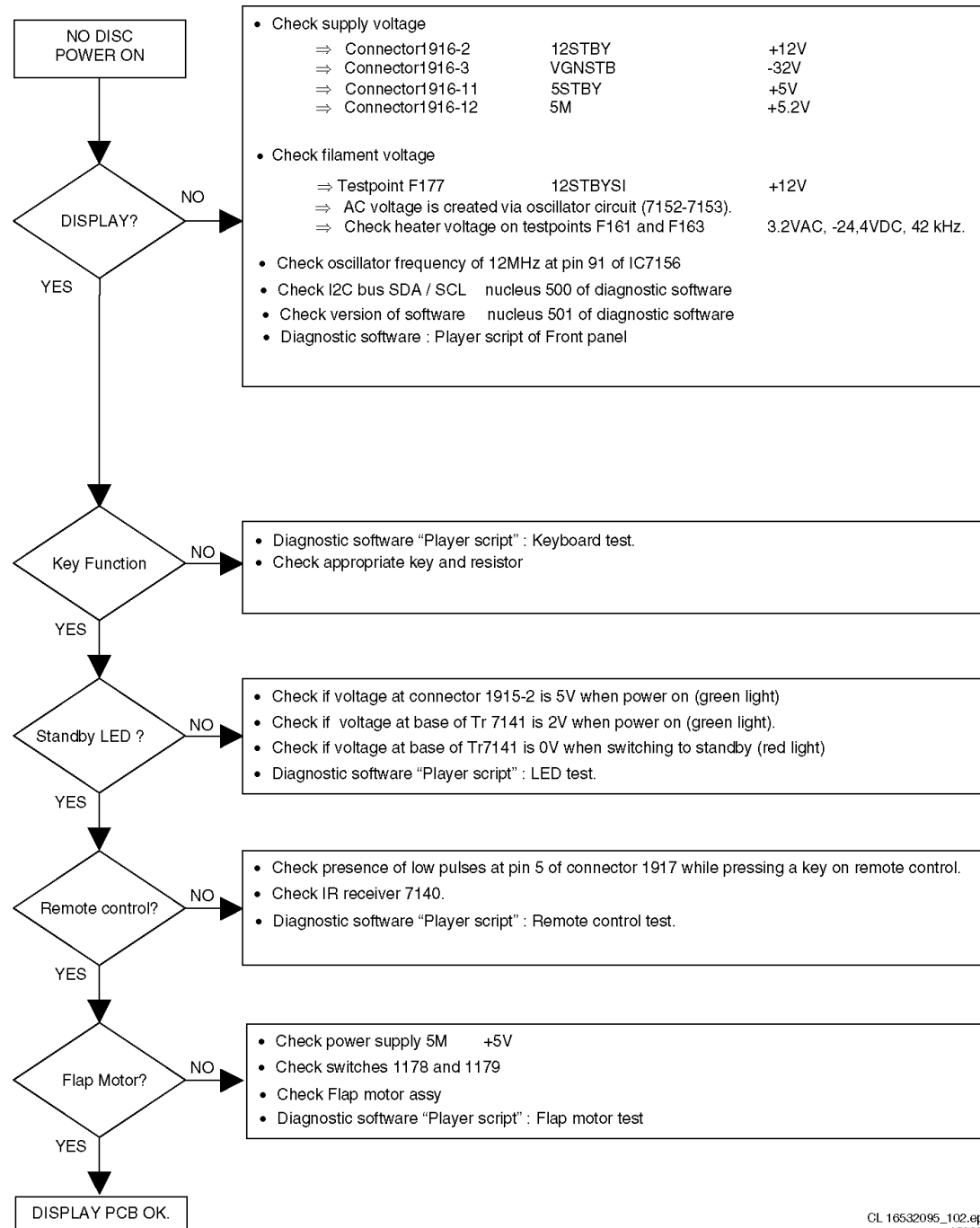
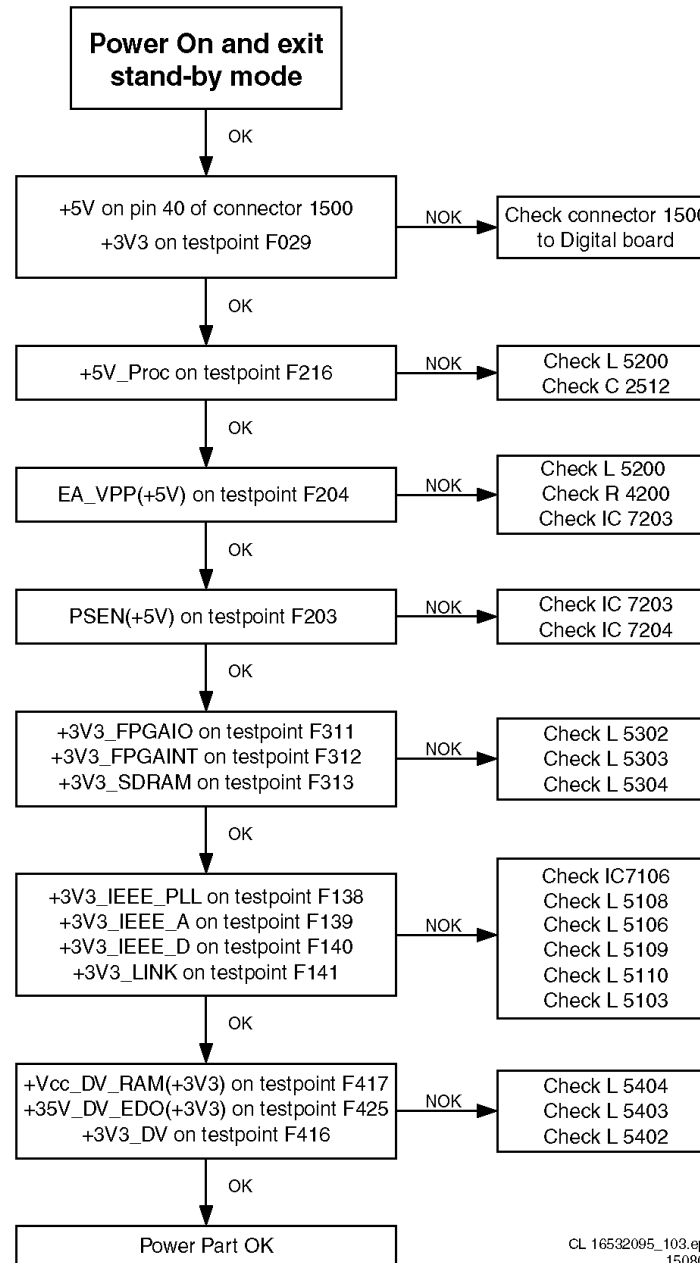


Figure 5-36

## POWER PART CHECK DVIO

USE DVIO BOARD CIRCUIT DIAGRAMS 1 2, 3, 4 AND 5 AND DVIO TOP VIEW TESTPOINTS



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Figure 5-37

## RESET & CLOCK CHECK DVIO

USE DVIO BOARD CIRCUIT DIAGRAMS 2, 3, 4 AND 5  
AND DVIO TOP VIEW TESTPOINTS

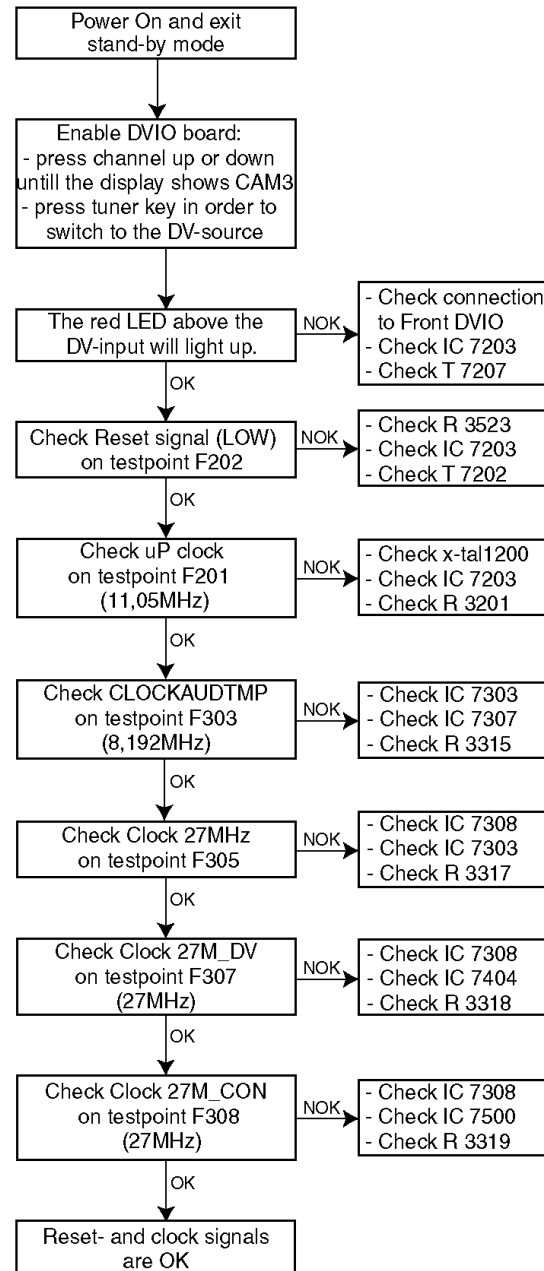


Figure 5-38

# DSW DVIO TESTS

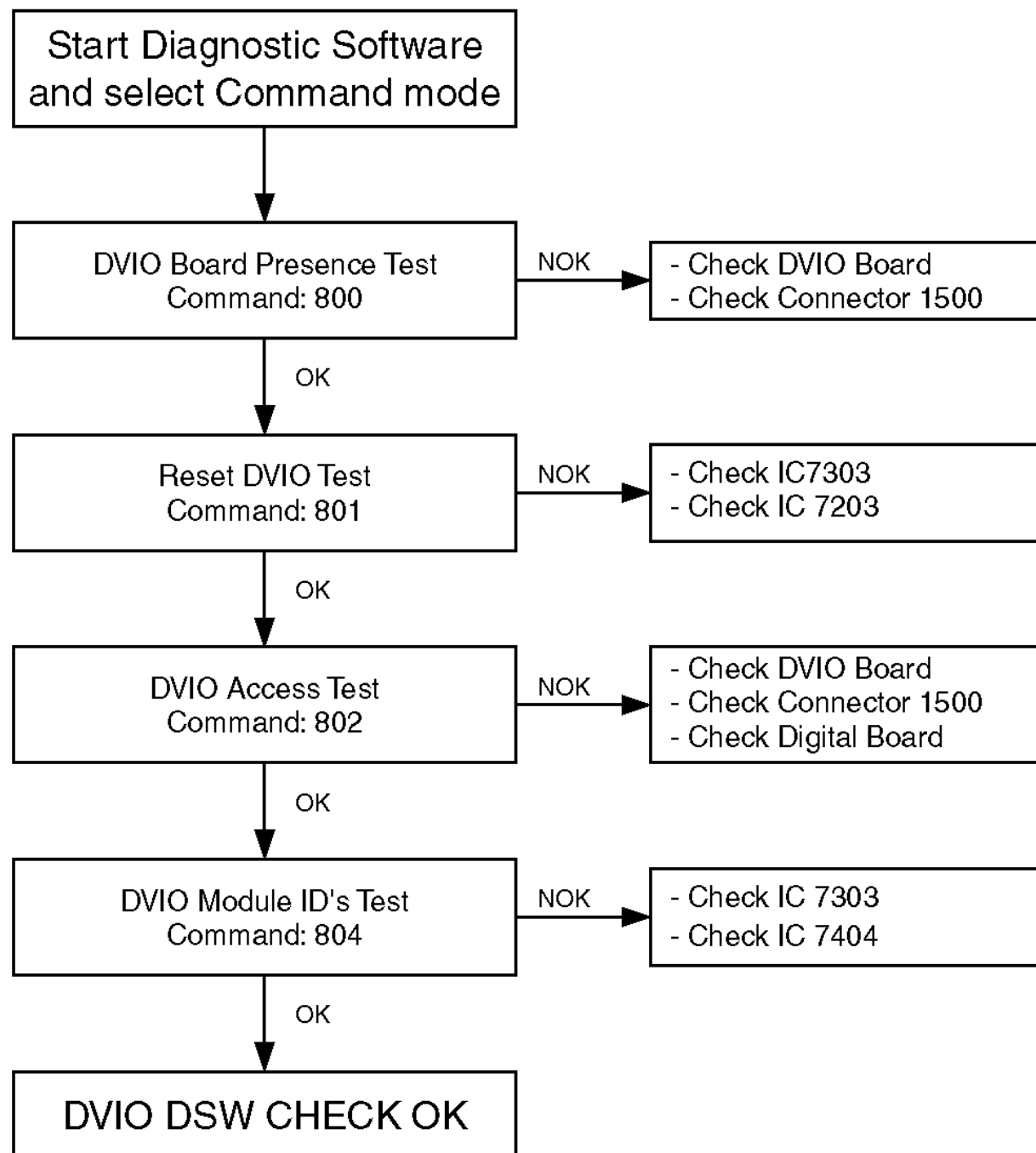


Figure 5-39

# FUNCTIONAL TEST VIDEO PICTURE DVIO BOARD

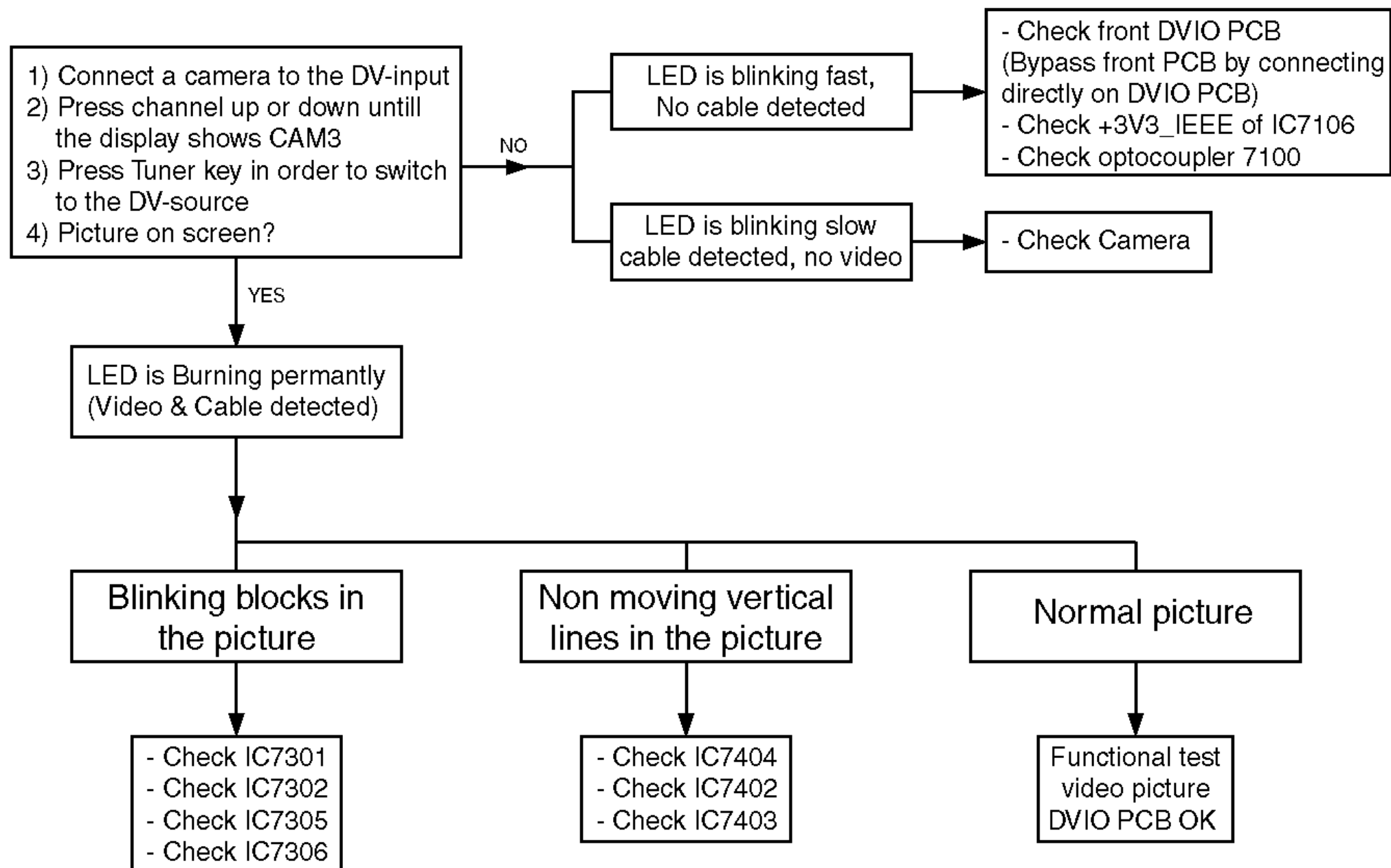


Figure 5-40

# Waveforms DVIO

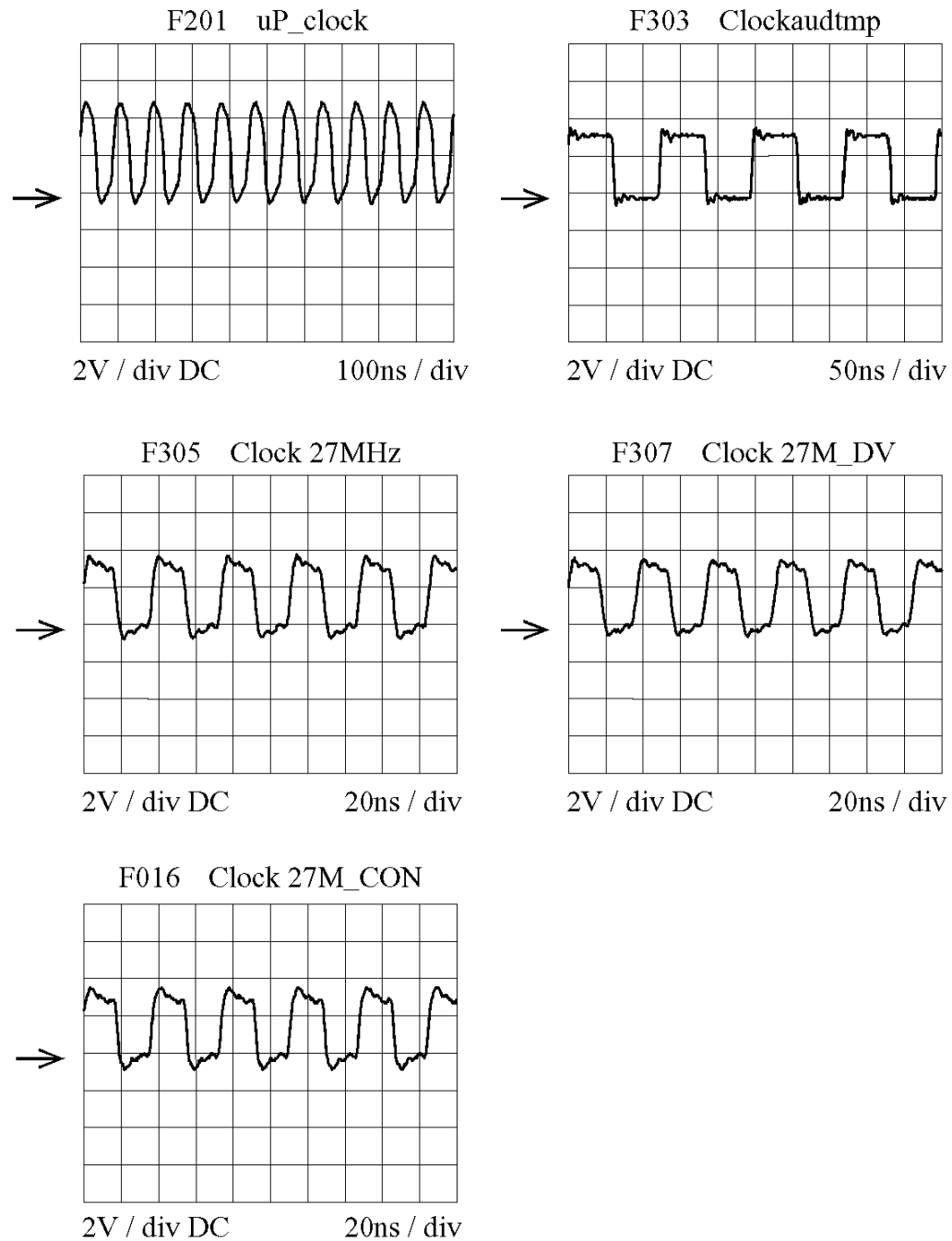
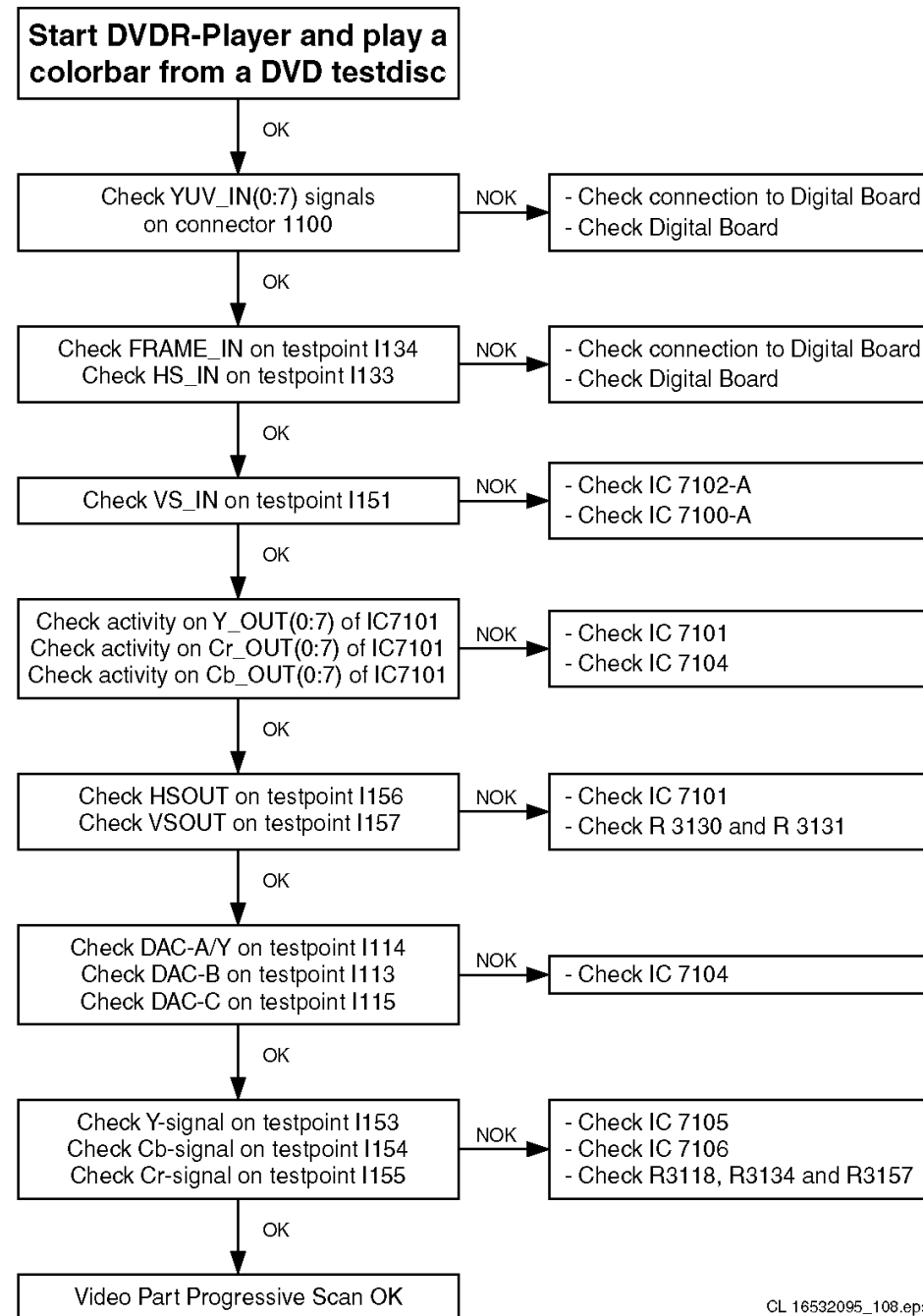


Figure 5-41

# VIDEO PART CHECK PROGRESSIVE SCAN

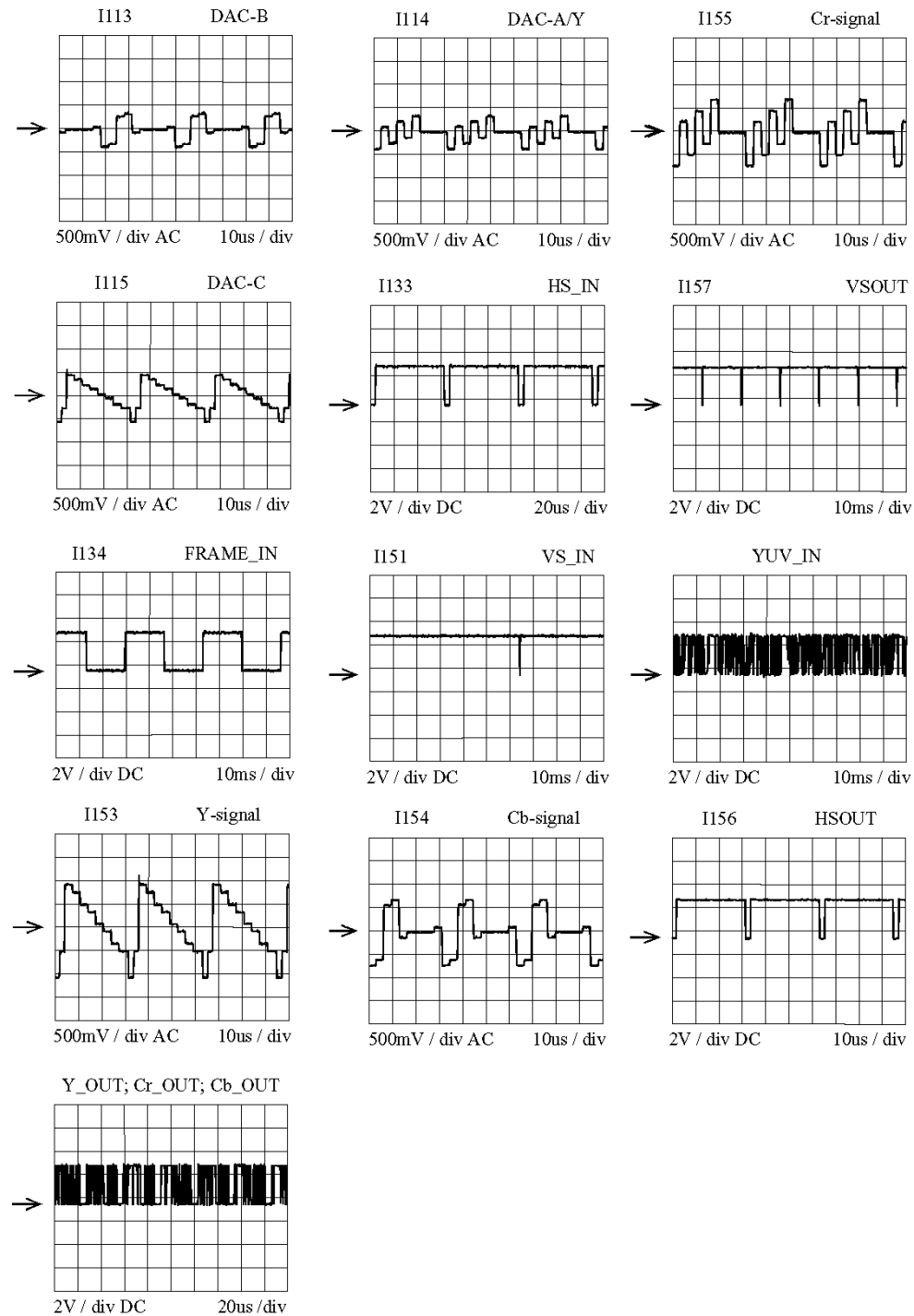


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150801

Figure 5-42



# Waveforms Progressive Scan



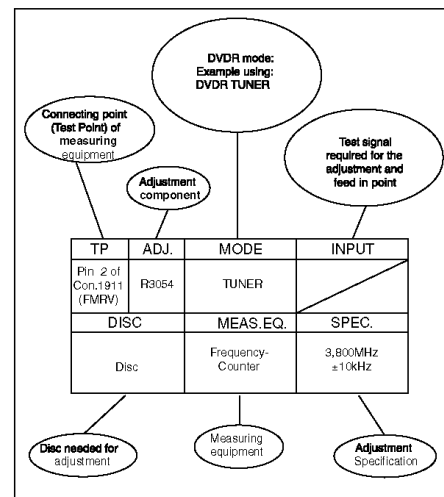
# Alignments

## ADJUSTMENT INSTRUCTIONS ANALOGUE BOARD

### Test equipment:

1. Dual-trace oscilloscope  
Voltage range : 0.001 ~ 50 V/div  
Frequency : DC ~ 50 MHz  
Probe : 10:1, 1:1
2. DVM (Digital voltmeter)
3. Frequency counter
4. Sinus generator  
Sinus : 0 ~ 50 MHz
5. Test pattern generator

### How to read the adjustment procedures:



### Front End (FV)

Service tasks after replacement of IC 7703, coil L5702 and L5703:

#### 1 AFC Adjustment:

*Purpose:* Correct adjustment of demodulator AFC - circuit

*Symptom, if incorrectly set:*  
Bad or disturbed TV channel reception.

#### PAL - AFC adjustment [5703]:

TP	ADJ.	MODE	INPUT
IC 7703 Pin 17 (I976)	L5703	TUNER	45.75MHz 500mVpp at Tuner 1705, Pin 11 (F700, IF-out)
DISC	MEAS. EQ.	SPEC.	
	DC Voltmeter Frequ. Generator	2,5V ±0,1V	

#### 2 HF - AGC adjustment [3707]:

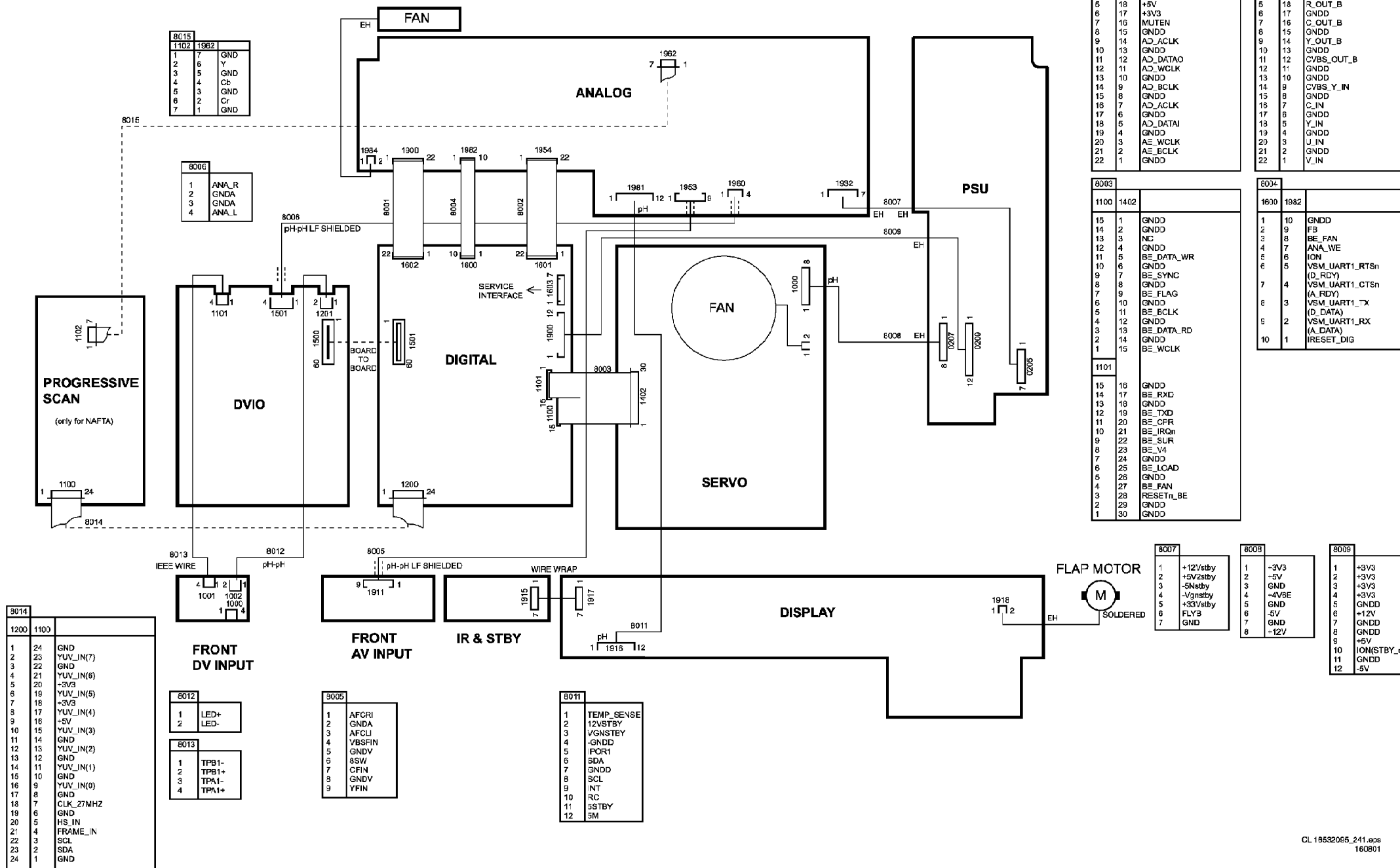
Service tasks after replacement of IC 7703:

*Purpose:* Set amplifier control.

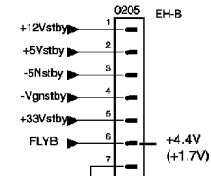
*Symptom, if incorrectly set:*  
Picture jitter if input level is too low and picture distortion  
if input level is too high.

TP	ADJ.	MODE	INPUT
Tuner 1705 Pin 11 (F700, IF-out)	R3707	Set tuned to channel 19 501.25 MHz	5mVrms(74dBμV) on aerial input NTSC white picture, audio IF on, no modulation
DISC	MEAS. EQ.	SPEC.	
	Oscilloscope Video Pattern Generator	500mVpp ±0.5dB (use a 10:1 probe)	

## WIRING DIAGRAM



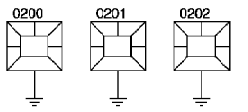
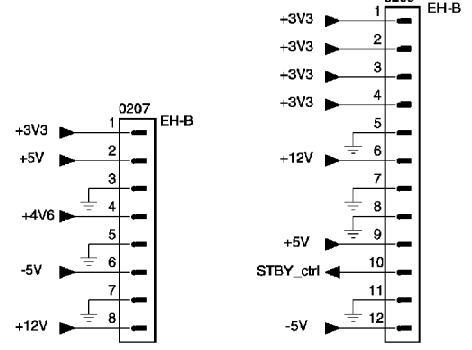
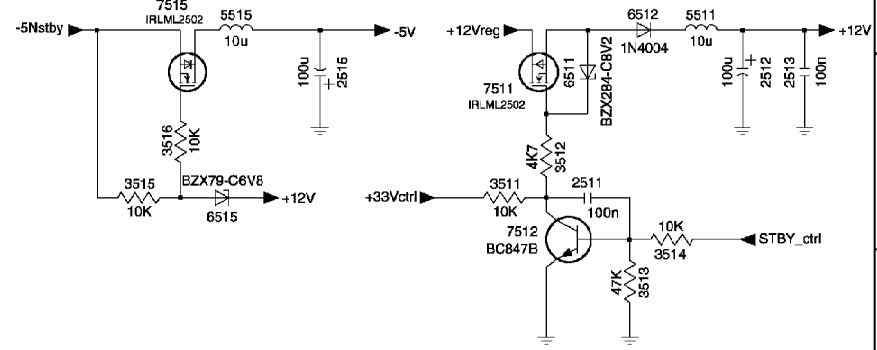
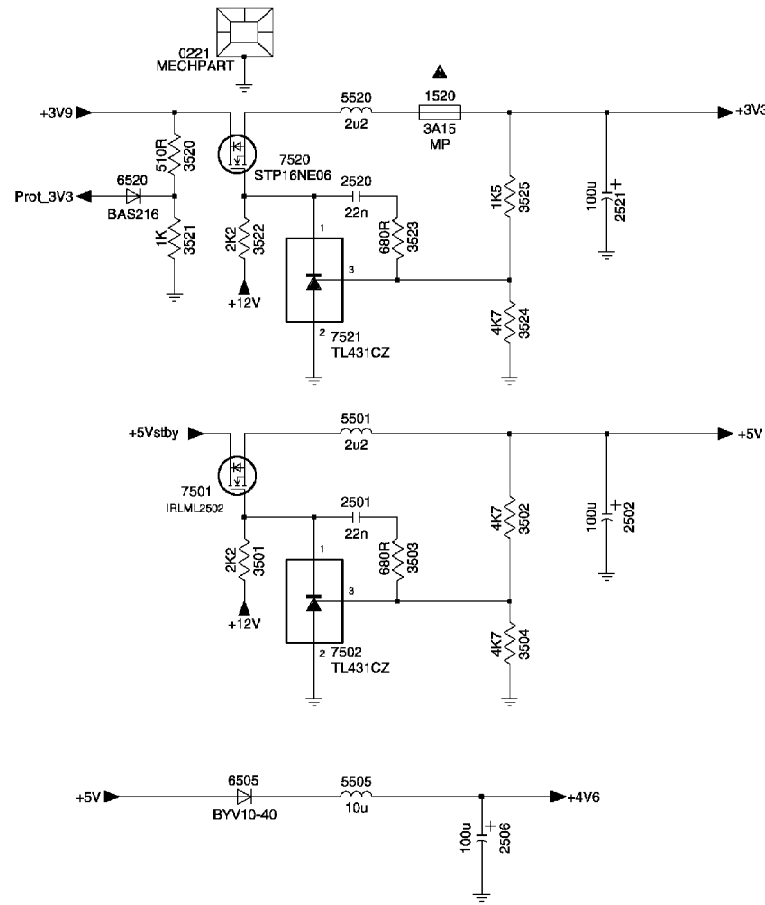
## 1

CL 16532111\_020.eps  
130901

0101-1 B1	6130
0101-2 A1	6131
0126 C5	6132
0205 F12	6140
0210 C8	6141
0240 D8	6142
0260 D8	6143
0260 E3	6144
1120 A2	6145
1124 A4	6146
1125 B4	6145
2119 B4	6152
2120 B3	6153
2125 B6	6154
2126 B5	6200
2127 A4	6201
2129 B5	6210
2130 B7	6211
2131 A7	6215
2136 C7	6220
2139 D3	6221
2140 C4	6230
2141 D4	6231
2142 D2	6240
2143 E3	7125
2144 E4	7140
2145 E4	7141
2146 C5	7142
2147 E5	7143
2151 E5	7200
2152 E7	7220
2153 D5	7241
2200 B9	7250
2201 B10	9110
2210 B9	9115
2211 B10	
2212 B9	
2214 C9	
2215 C9	
2220 E5	
2221 E10	
2222 E10	
2223 E10	
2230 F9	
2235 F10	
2240 D9	
2241 D10	
2242 D9	
2251 G6	
3120 B3	
3122 B3	
3123 B2	
3125 B2	
3126 B5	
3127 B7	
3128 B7	
3129 A5	
3131 C5	
3132 C5	
3133 D6	
3134 B5	
3135 D6	
3136 D6	
3139 D4	
3140 C5	
3141 C4	
3142 C3	
3143 D3	
3144 D2	
3145 D4	
3146 D5	
3147 D5	
3148 E5	
3149 E7	
3150 D6	
3151 E1	
3152 D5	
3200 A10	
3201 B10	
3220 E11	
3222 D11	
3223 D11	
3224 F9	
3225 F9	
3234 F10	
3250 G8	
3253 G6	
3254 G10	
3255 G8	
3256 G6	
5110 A3	
5115 B3	
5120 B4	
5121 B4	
5125 C7	
5131 B7	
5120 B10	
5245 D9	
6125 B7	
6128 A4	
6129 A5	

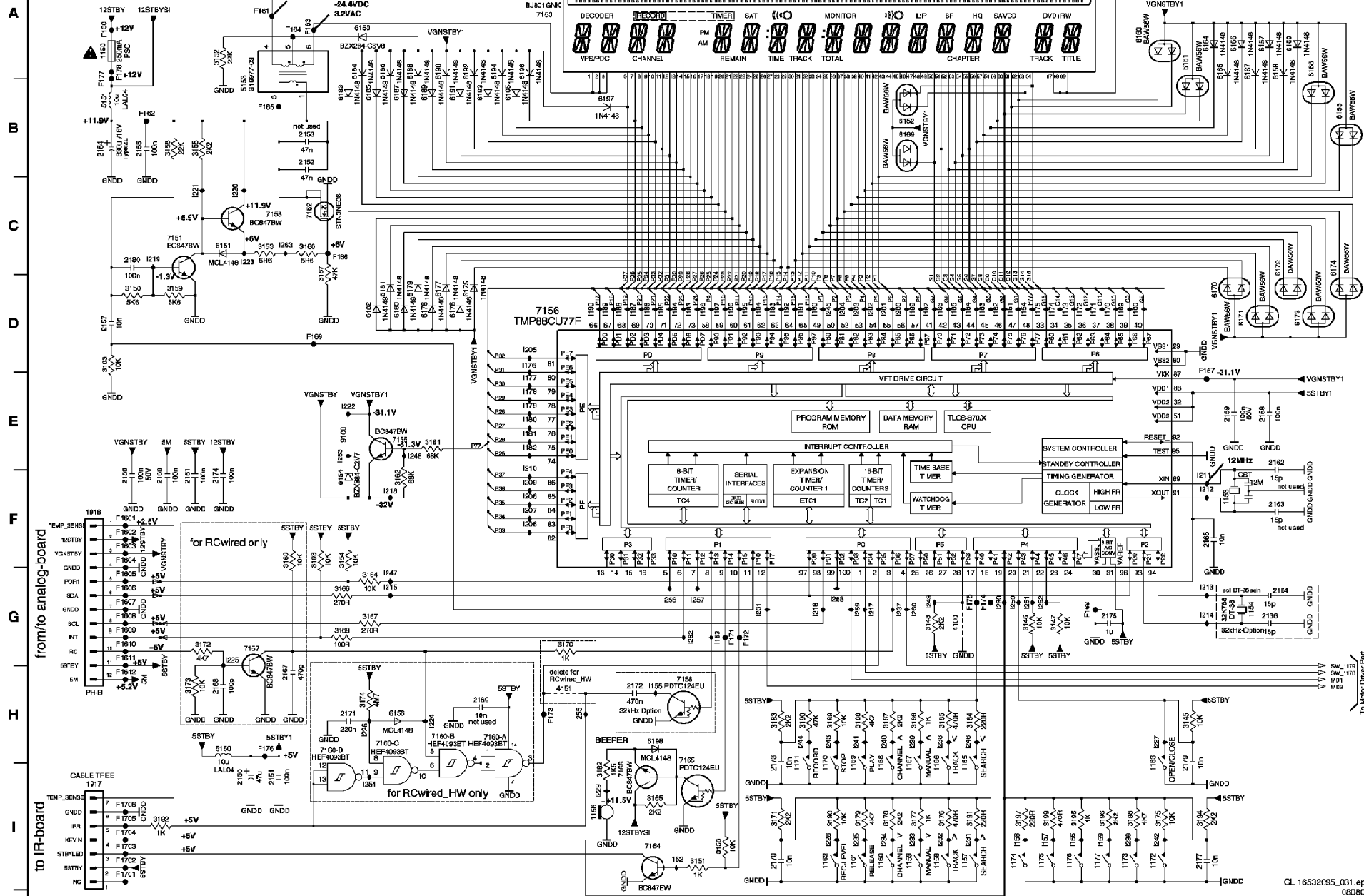
2

POWER SUPPLY



0200 C  
0201 C  
0202 C  
0207 E  
0209 A  
0221 E  
1520 E  
2501 C  
2502 C  
2506 F  
2511 E  
2512 E  
2513 E  
2515 E  
2520 E  
2521 E  
3501 C  
3502 C  
3503 C  
3504 E  
3511 E  
3512 E  
3513 F  
3514 E  
3515 E  
3516 E  
3520 E  
3521 C  
3522 C  
3523 C  
3524 C  
3525 E  
5501 C  
5505 E  
5511 C  
5515 C  
5520 E  
5505 E  
5511 E  
5512 C  
5515 E  
5520 E  
7501 C  
7502 E  
7511 E  
7512 E  
7515 C  
7520 E  
7521 C

# 1 Display Part



0206 A12	1154 F3	1174
150 A1	1155 B13	1175
1153 F12	1156 A4	1176
1154 G13	1157 F12	1177
1156 B	1158 A13	1178
1157 H1C	1159 A13	1179
1158 B	1160 A1	1180
1159 H12	1161 F12	1181
1160 B	1162 A12	1182
1161 B	1163 A12	1183
1162 B	1164 A12	1184
1163 H12	1165 A12	1185
1165 H10	1166 A13	1186
1166 H6	1167 B9	1187
1167 H9	1168 D12	1188
1168 H12	1169 B12	1189
1169 H6	1172 D13	1190
1170 H6	1173 D13	1191
1171 H12	1174 D13	1192
1172 H12	1175 D10	1193
1173 H11	1176 D4	1194
1174 H1C	1177 D4	1195
1175 H12	1178 D4	1196
1176 H11	1179 D4	1197
1177 H11	1180 D4	1198
1616 F1	1181 D4	1199
1182 H12	1182 D5	1200
2150 D2	1183 B3	1201
2151 B3	1184 A3	1202
1182 B3	1185 B4	1203
2152 B4	1186 A4	1204
2154 B1	1187 B4	1205
2155 B1	1188 A4	1206
2156 B1	1189 A4	1207
2157 D1	1190 A4	1208
2158 B13	1191 B4	1209
2159 B12	1192 A5	1210
2160 B12	1193 B5	1211
2161 F2	1194 A5	1212
2162 B13	1195 B5	1213
2163 F13	1196 A5	1214
2164 F1	1197 H7	1215
2165 F12	1198 H7	1216
2166 G13	1199 A5	1217
2167 H6	1199 B5	1218
2168 B12	1199 H7	1219
2169 H5	1199 B3	1220
2170 H8	1199 B4	1221
2171 H8	1199 B4	1222
2172 H6	1199 B2	1223
2173 H6	1199 H7	1224
2174 F2	1199 A5	1225
2175 G11	1199 H4	1226
2177 H12	1200 A4	1227
2179 H12	1200 D3	1228
2180 C1	1200 H4	1229
2181 H12	1200 B3	1230
3146 G10	1206 B6	1231
3147 G11	1207 B23	1232
3148 H12	1208 B1	1233
3150 D1	1209 F1	1234
3151 F7	1210 F21	1235
3152 A2	1210 G1	1236
3153 C2	1211 G1	1237
3154 F3	1212 G1	1238
3155 B2	1213 G1	1239
3156 F7	1214 G1	1240
3157 C2	1215 G1	1241
3158 B2	1216 G1	1242
3159 D2	1217 A1	1243
3160 C3	1218 D10	1244
3161 E4	1219 A1	1245
3162 F4	1220 H1	1246
3163 D1	1221 A1	1247
3164 F4	1222 A1	1248
3165 F7	1223 H1	1249
3166 G3	1224 B3	1250
3167 G4	1225 B3	1251
3168 G2	1226 B3	1252
3169 F3	1227 G11	1253
3170 G6	1228 D3	1254
3171 B8	1229 H1	1255
3172 G2	1230 H1	1256
3173 H2	1231 H1	1257
3174 H4	1232 H1	1258
3175 H2	1233 H1	1259
3176 H9	1234 H1	1260
3177 B9	1235 F7	1261
3178 B9	1236 F7	1262
3179 B9	1237 H1	1263
3180 B9	1238 D10	1264
3182 B	1239 G10	1265
3183 H8	1240 H3	1266
3184 H10	1241 H3	1267
3185 H8	1242 F1	1268
3186 H8	1243 F7	1269
3187 H9	1244 B7	1270
3188 H9	1245 H9	1271
3189 H8	1246 H7	1272
3190 H8	1247 H11	1273
3191 F3	1248 H11	1274
3192 F3	1249 H11	1275
3194 H12	1250 D6	1276
3195 H11	1251 H11	1277
3196 H11	1252 D10	1278
3197 H1C	1253 D10	1279
3198 H11	1254 D10	1280
3199 H11	1255 D10	1281
3200 H11	1256 D10	1282
3201 H11	1257 D10	1283
3202 H11	1258 D10	1284
3203 H11	1259 D10	1285
3204 H11	1260 D10	1286
3205 H11	1261 D10	1287
3206 H11	1262 D10	1288
3207 H11	1263 D10	1289
3208 H11	1264 D10	1290
3209 H11	1265 D10	1291
3210 H11	1266 D10	1292
3211 H11	1267 D10	1293
3212 H11	1268 D10	1294
3213 H11	1269 D10	1295
3214 H11	1270 D10	1296
3215 H11	1271 D10	1297
3216 H11	1272 D10	1298
3217 H11	1273 D10	1299
3218 H11	1274 D10	1300
3219 H11	1275 D10	1301
3220 H11	1276 D10	1302
3221 H11	1277 D10	1303
3222 H11	1278 D10	1304
3223 H11	1279 D10	1305
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3225 H11	1281 D10	1307
3226 H11	1282 D10	1308
3227 H11	1283 D10	1309
3228 H11	1284 D10	1310
3229 H11	1285 D10	1311
3230 H11	1286 D10	1312
3231 H11	1287 D10	1313
3232 H11	1288 D10	1314
3233 H11	1289 D10	1315
3234 H11	1290 D10	1316
3235 H11	1291 D10	1317
3236 H11	1292 D10	1318
3237 H11	1293 D10	1319
3238 H11	1294 D10	1320
3239 H11	1295 D10	1321
3240 H11	1296 D10	1322
3241 H11	1297 D10	1323
3242 H11	1298 D10	1324
3243 H11	1299 D10	1325
3244 H11	1300 D10	1326
3245 H11	1301 D10	1327
3246 H11	1302 D10	1328
3247 H11	1303 D10	1329
3248 H11	1304 D10	1330
3249 H11	1305 D10	1331
3250 H11	1306 D10	1332
3251 H11	1307 D10	1333
3252 H11	1308 D10	1334
3253 H11	1309 D10	1335
3254 H11	1310 D10	1336
3255 H11	1311 D10	1337
3256 H11	1312 D10	1338
3257 H11	1313 D10	1339
3258 H11	1314 D10	1340
3259 H11	1315 D10	1341
3260 H11	1316 D10	1342
3261 H11	1317 D10	1343
3262 H11	1318 D10	1344
3263 H11	1319 D10	1345
3264 H11	1320 D10	1346
3265 H11	1321 D10	1347
3266 H11	1322 D10	1348
3267 H11	1323 D10	1349
3268 H11	1324 D10	1350
3269 H11	1325 D10	1351
3270 H11	1326 D10	1352
3271 H11	1327 D10	1353
3272 H11	1328 D10	1354
3273 H11	1329 D10	1355
3274 H11	1330 D10	1356
3275 H11	1331 D10	1357
3276 H11	1332 D10	1358
3277 H11	1333 D10	1359
3278 H11	1334 D10	1360
3279 H11	1335 D10	1361
3280 H11	1336 D10	1362
3281 H11	1337 D10	1363
3282 H11	1338 D10	1364
3283 H11	1339 D10	1365
3284 H11	1340 D10	1366
3285 H11	1341 D10	1367
3286 H11	1342 D10	1368
3287 H11	1343 D10	1369
3288 H11	1344 D10	1370
3289 H11	1345 D10	1371
3290 H11	1346 D10	1372
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3293 H11	1349 D10	1375
3294 H11	1350 D10	1376
3295 H11	1351 D10	1377
3296 H11	1352 D10	1378
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3298 H11	1354 D10	1380
3299 H11	1355 D10	1381
3300 H11	1356 D10	1382
3301 H11	1357 D10	1383
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3304 H11	1360 D10	1386
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3306 H11	1362 D10	1388
3307 H11	1363 D10	1389
3308 H11	1364 D10	1390
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3310 H11	1366 D10	1392
3311 H11	1367 D10	1393
3312 H11	1368 D10	1394
3313 H11	1369 D10	1395
3314 H11	1370 D10	1396
3315 H11	1371 D10	1397
3316 H11	1372 D10	1398
3317 H11	1373 D10	1399
3318 H11	1374 D10	1400
3319 H11	1375 D10	1401
3320 H11	1376 D10	1402
3321 H11	1377 D10	1403
3322 H11	1378 D10	1404
3323 H11	1379 D10	1405
3324 H11	1380 D10	1406
3325 H11	1381 D10	1407
3326 H11	1382 D10	1408
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3328 H11	1384 D10	1410
3329 H11	1385 D10	1411
3330 H11	1386 D10	1412
3331 H11	1387 D10	1413
3332 H11	1388 D10	1414
3333 H11	1389 D10	1415
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3337 H11	1393 D10	1419
3338 H11	1394 D10	1420
3339 H11	1395 D10	1421
3340 H11	1396 D10	1422
3341 H11	1397 D10	1423
3342 H11	1398 D10	1424
3343 H11	1399 D10	1425
3344 H11	1400 D10	1426
3345 H11	1401 D10	1427
3346 H11	1402 D10	1428
3347 H11	1403 D10	1429
3348 H11	1404 D10	1430
3349 H11	1405 D10	1431
3350 H11	1406 D10	1432
3351 H11	1407 D10	1433
3352 H11	1408 D10	1434
3353 H11	1409 D10	1435
3354 H11	1410 D10	1436
3355 H11	1411 D10	1437
3356 H11	1412 D10	1438
3357 H11	1413 D10	1439
3358 H11	1414 D10	1440
3359 H11	1415 D10	1441
3360 H11	1416 D10	1442
3361 H11	1417 D10	1443
3362 H11	1418 D10	1444
3363 H11	1419 D10	1445
3364 H11	1420 D10	1446
3365 H11	1421 D10	1447
3366 H11	1422 D10	1448
3367 H11	1423 D10	1449
3368 H11	1424 D10	1450
3369 H11	1425 D10	1451
3370 H11	1426 D10	1452
3371 H11	1427 D10	1453
3372 H11	1428 D10	1454
3373 H11	1429 D10	1455
3374 H11	1430 D10	1456
3375 H11	1431 D10	1457
3376 H11	1432 D10	1458
3377 H11	1433 D10	1459
3378 H11	1434 D10	1460
3379 H11	1435 D10	1461
3380 H11	1436 D10	1462
3381 H11	1437 D10	1463
3382 H11	1438 D10	1464
3383 H11	1439 D10	1465
3384 H11	1440 D10	1466
3385 H11	1441 D10	1467
3386 H11	1442 D10	1468
3387 H11	1443 D10	1469
3388 H11	1444 D10	1470
3389 H11	1445 D10	1471
3390 H11	1446 D10	1472
3391 H11	1447 D10	1473
3392 H11	1448 D10	1474
3393 H11	1449 D10	1475
3394 H11	1450 D10	1476
3395 H11	1451 D10	1477
3396 H11	1452 D10	1478
3397 H11	1453 D10	1479
3398 H11	1454 D10	1480
3399 H11	1455 D10	1481
3400 H11	1456 D10	1482
3401 H11	1457 D10	1483
3402 H11	1458 D10	1484
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3408 H11	1464 D10	1490
3409 H11	1465 D10	1491
3410 H11	1466 D10	1492
3411 H11	1467 D10	1493
3412 H11	1468 D10	1494
3413 H11	1469 D10	1495
3414 H11	1470 D10	1496
3415 H11	1471 D10	1497
3416 H11	1472 D10	1498
3417 H11	1473 D10	1499
3418 H11	1474 D10	1500
3419 H11	1475 D10	1501
3420 H11	1476 D10	1502
3421 H11	1477 D10	1503
3422 H11	1478 D10	1504
3423 H11	1479 D10	1505
3424 H11	1480 D10	1506
3425 H11	1481 D10	1507
3426 H11	1482 D10	1508
3427 H11	1483 D10	1509
3428 H11	1484 D10	1510
3429 H11	1485 D10	1511

1178 D3	2121 C3	3121 B1	3125 B2	3129 D2	3133 C2	C100 E4	F1802 B4	I123 C2
1179 E3	2122 C3	3122 B1	3126 B3	3130 D2	3134 A1	F120 A3	I120 B2	I124 C2
1918 C4	2123 E1	3123 C1	3127 C3	3131 D2	7120-A B3	F121 A3	I121 B2	
2120 A3	2124 E1	3124 A2	3128 D1	3132 E2	7120-B C3	F1801 B4	I122 B3	

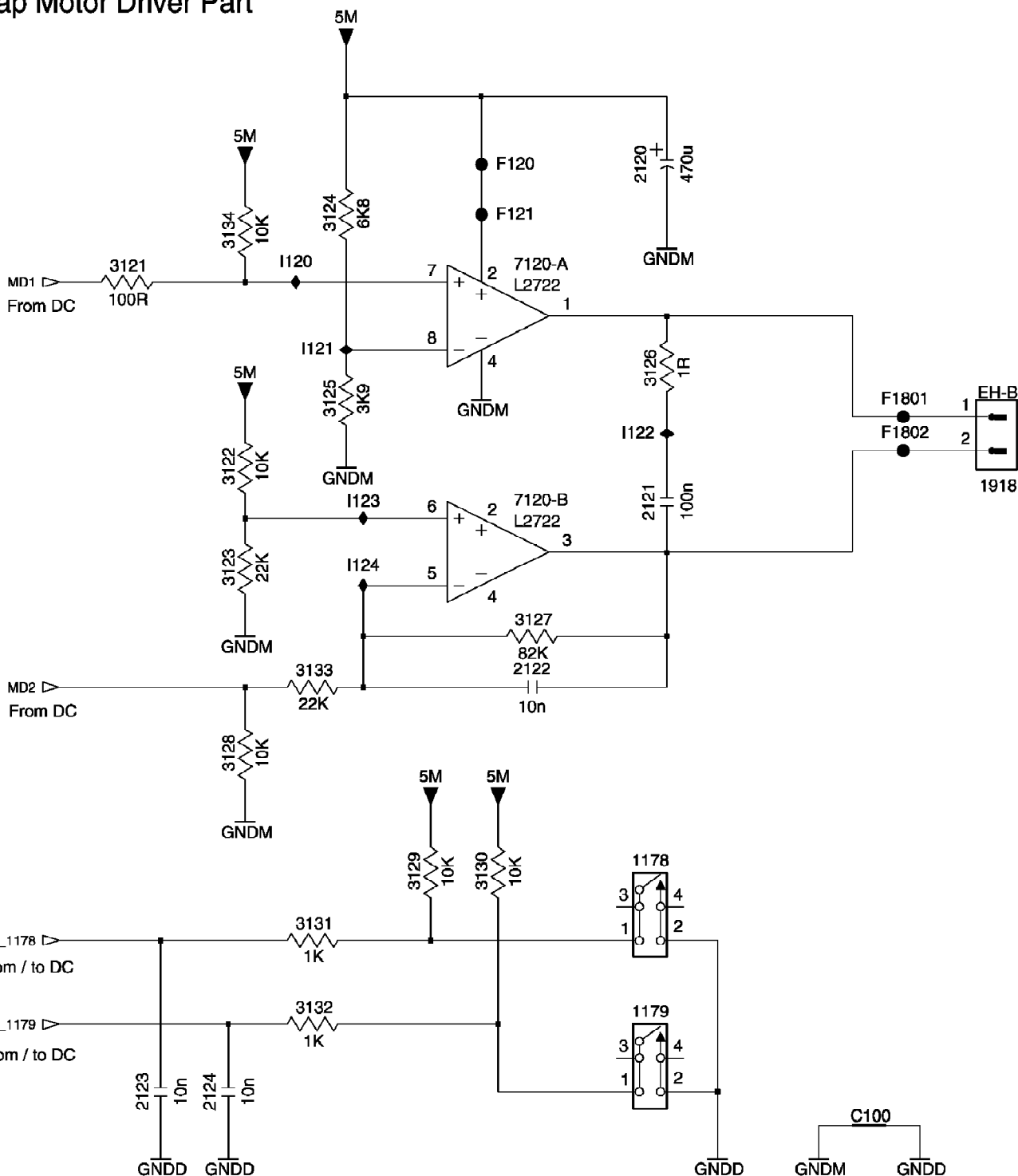
1

2

3

4

# Flap Motor Driver Part

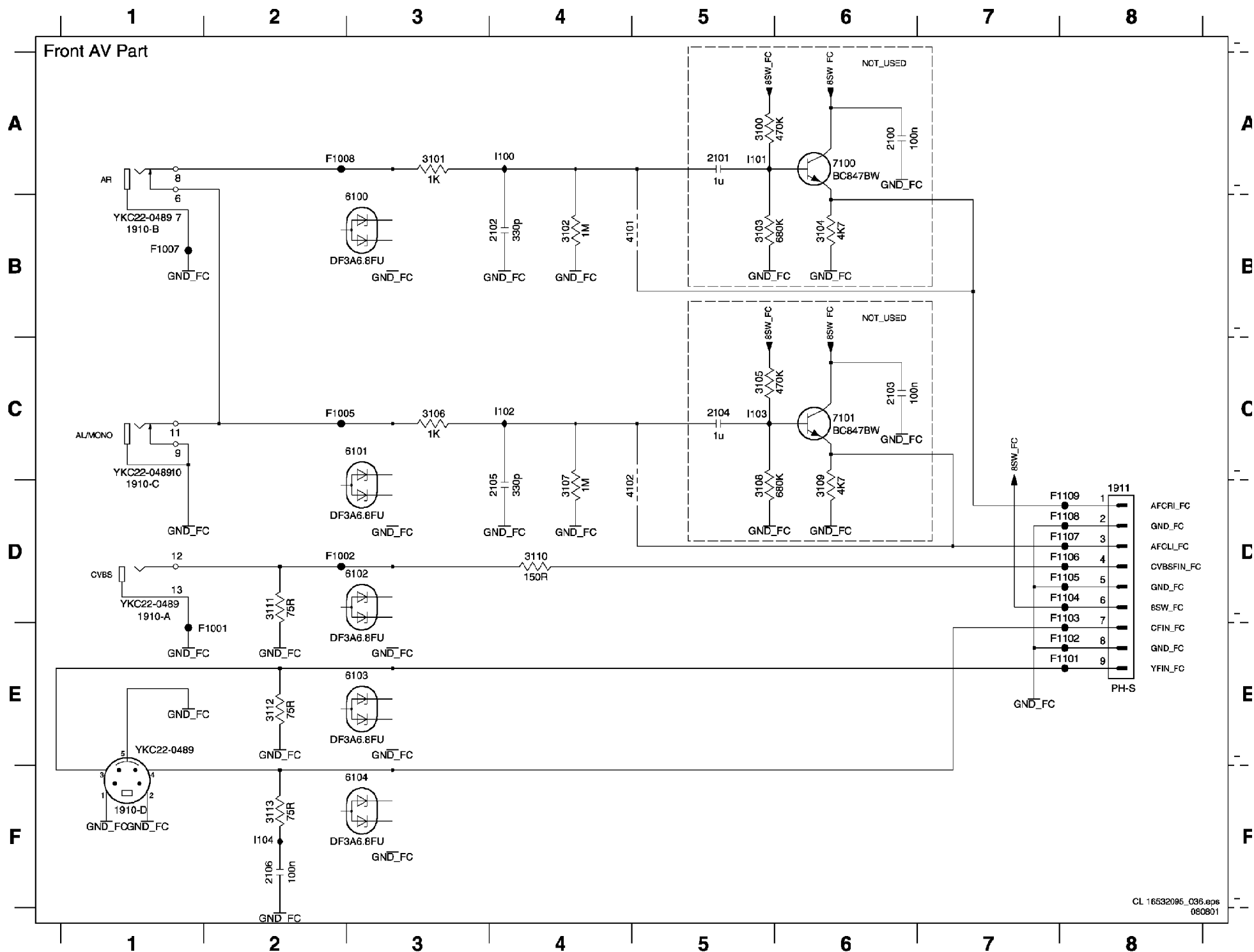


1

2

3

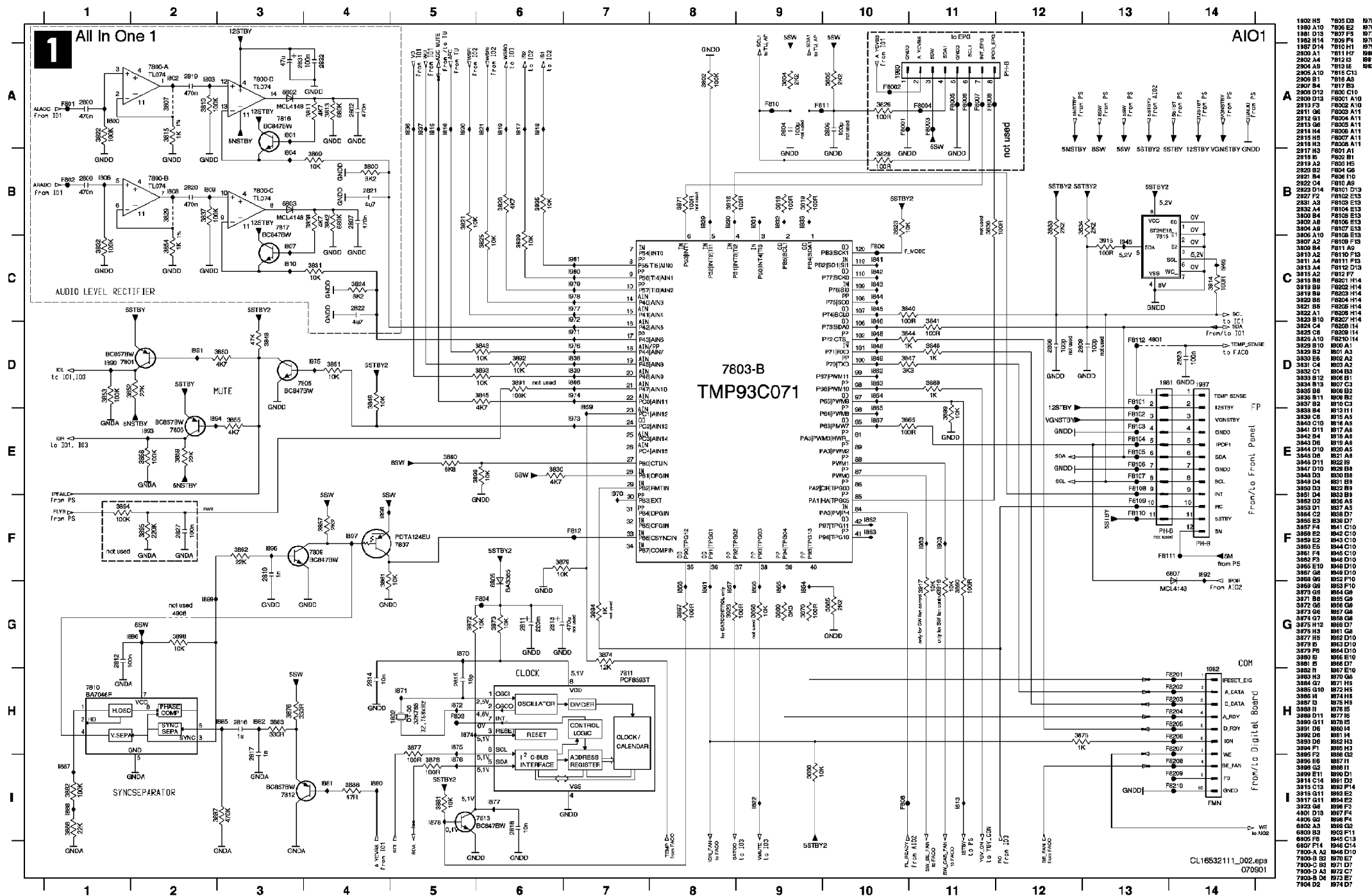
4



A1910- D1  
B1910- B1  
C1910- C1  
D1910- F1  
D1911 8  
A2100 6  
A2101 5  
B2102 4  
C2103 6  
C2104 5  
D2105 4  
F2106 2  
A3100 5  
A3101 3  
B3102 4  
B3103 5  
B3104 6  
C3105 5  
C3106 3  
D3107 4  
D3108 5  
D3109 6  
D3110 4  
D3111 2  
E3112 2  
F3113 2  
B4101 5  
D4102 5  
A6100 3  
C6101 3  
D6102 3  
E6103 3  
F6104 3  
A7100 6  
C7101 6  
F1001 E2  
F1002 D2  
F1005 C2  
F1007 B1  
F1008 A2  
F1101 E8  
F1102 E8  
F1103 D8  
F1104 D8  
F1105 D8  
F1106 D8  
F1107 D8  
F1108 D8  
F1109 A1  
F1101 A5  
F1102 C1  
F1103 C5  
F1104 F1







# 2 All In One 2

Pos. 3920, 3921, 3922, 7902, 7903, 7904 are for "ON-BOARD-PROGRAMMING"

AIO2

A

A

B

B

C

C

D

D

E

E

F

F

G

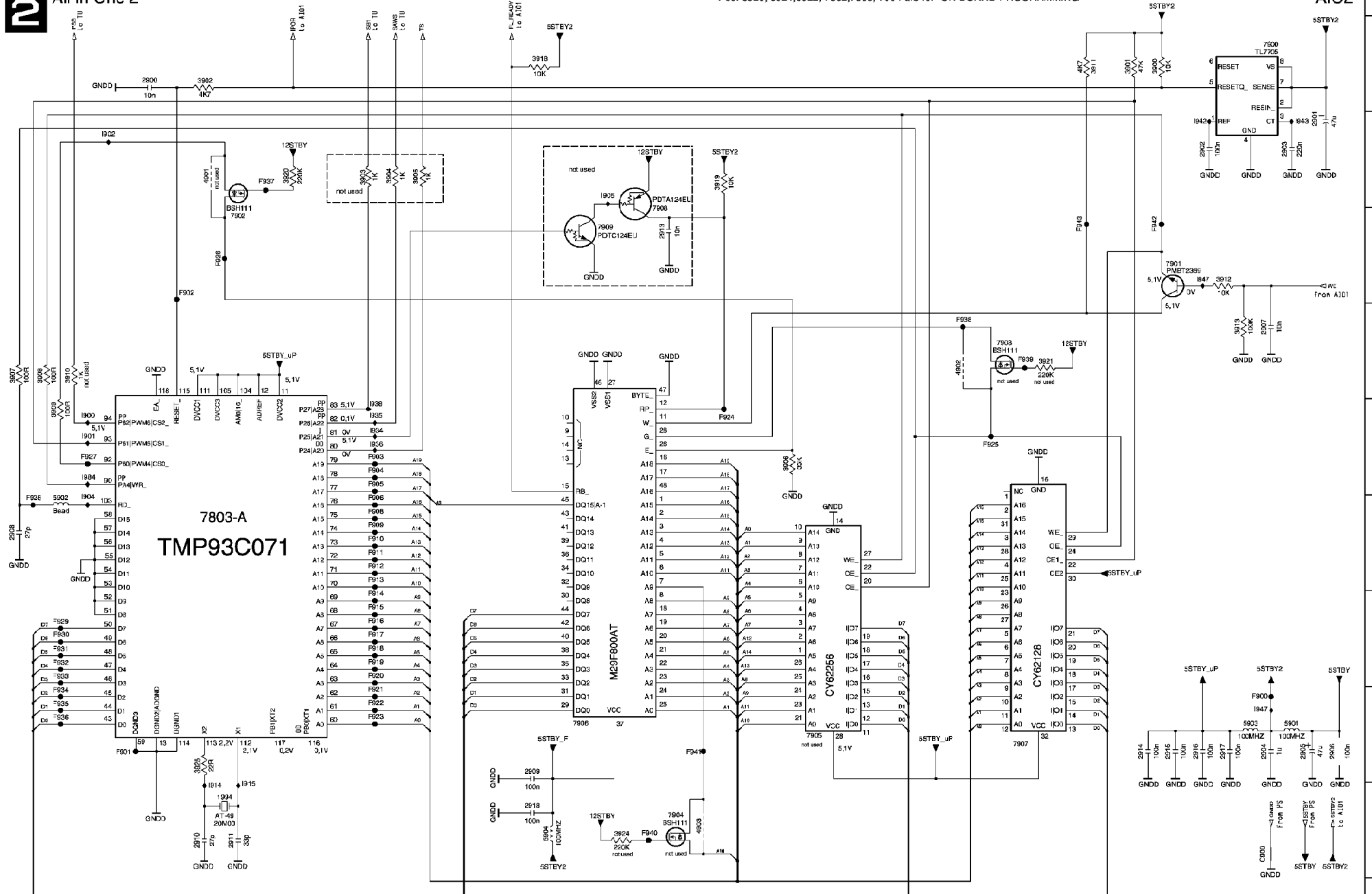
G

H

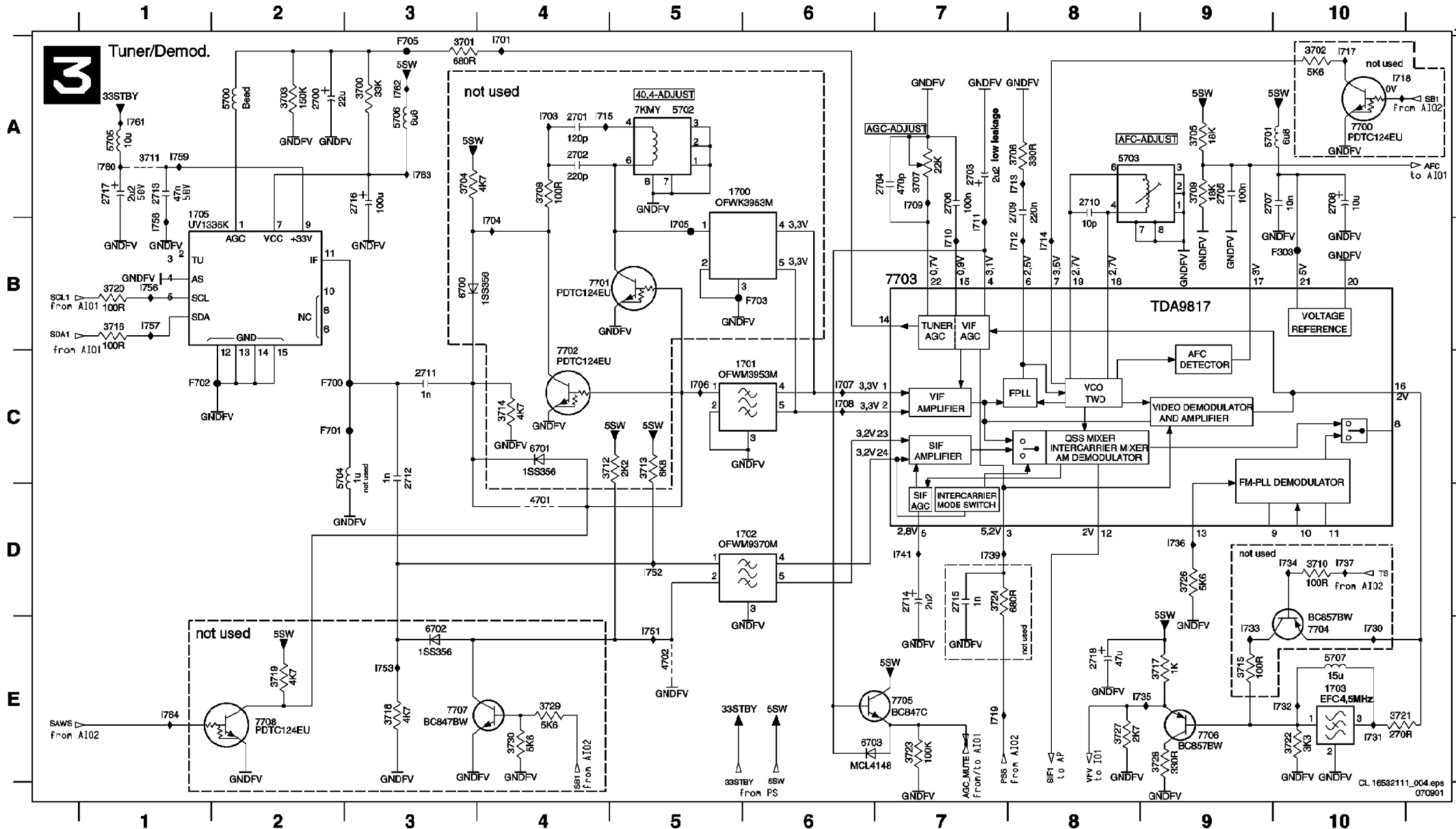
H

I

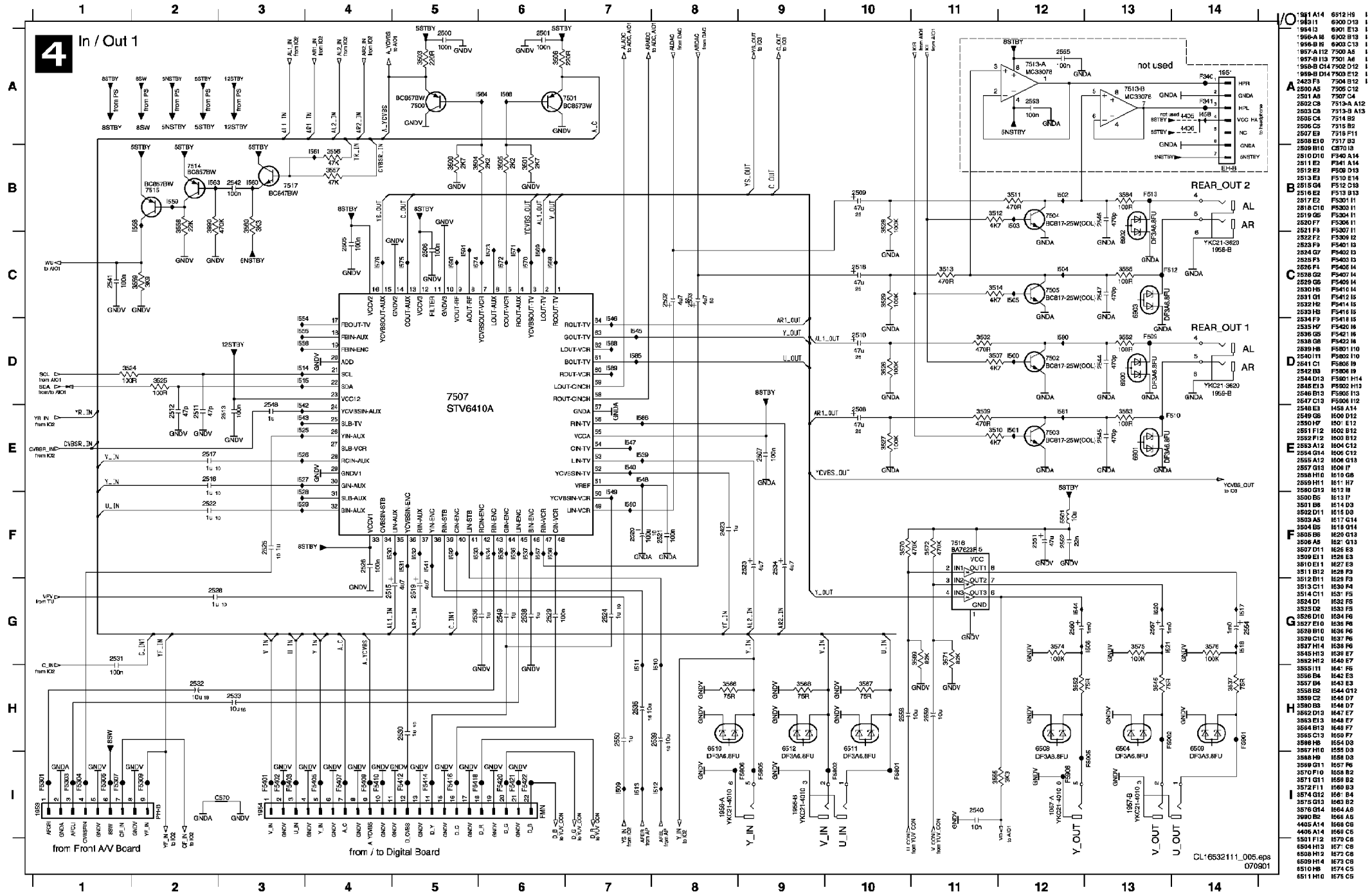
I



1700 A5	2700 A2	2705 A9	2710 A8	2715 D7	3701 A3	3706 A8	3711 A1	3715 B1	3721 E10	3727 E8	4702 E5	5704 C2	6701 C4	7702 C4	7707 E3	F702 C1	I704 B4	I709 A7	I714 B8	I730 E10	I735 E9	I751 E5	I758 B1	I763 A3
1701 C5	2701 A4	2706 A7	2711 C3	2715 A3	3702 A10	3707 A7	3712 C4	3717 E9	3722 E10	3728 E9	5700 A2	5705 A1	6702 E3	7703 B7	7708 E2	F703 B6	I705 B5	I710 B7	I715 A4	I731 E10	I736 D9	I752 D5	I759 A1	I764 E1
1702 D5	2702 A4	2707 A9	2712 C3	2717 A1	3703 A2	3708 A4	3713 C5	3718 E3	3723 E7	3729 E4	5701 A9	5706 A3	6703 E6	7704 E10	F705 B10	F705 A3	I706 C5	I711 B7	I717 A10	I732 E10	I737 D10	I753 E3	I760 A1	
1703 E10	2703 A7	2708 A10	2713 A1	2718 E8	3704 A3	3709 A9	3714 C4	3719 E2	3724 D7	3730 E4	5702 A5	5707 E10	6704 A10	7705 E7	F700 C2	I701 A4	I707 C6	I712 B8	I718 A10	I733 E9	I739 D7	I756 B1	I761 A1	
1705 A1	2704 A7	2709 A8	2714 D7	3700 A3	3705 A9	3710 D10	3715 E9	3720 B1	3726 D9	4701 D4	5703 A8	6700 B3	7701 B5	7706 E9	F701 C2	I703 A4	I708 C6	I713 A8	I719 E7	I734 D10	I741 D7	I757 B1	I762 A3	



# 4 In / Out 1



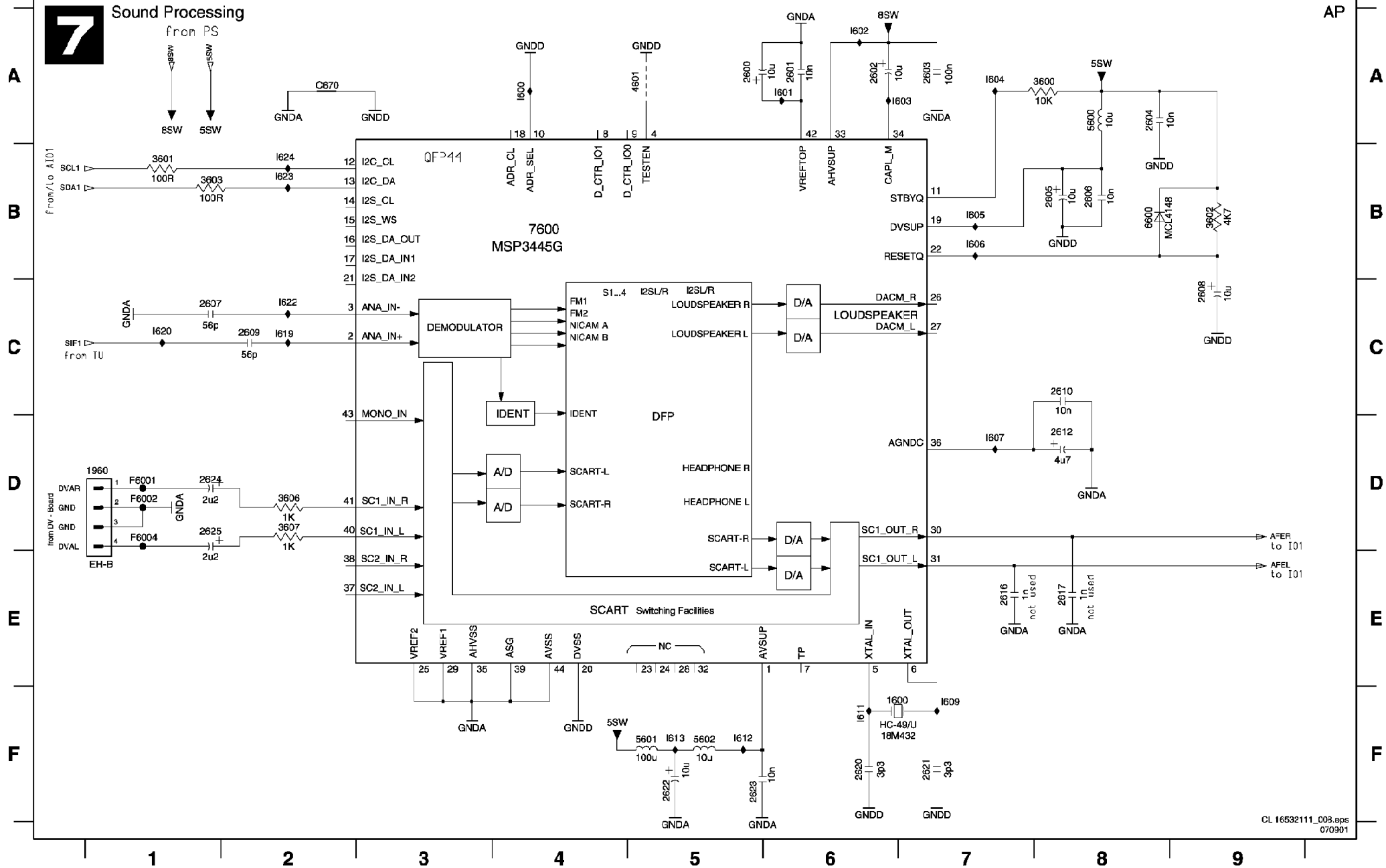
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19A3 I1	6500 D13	I
19A4 I2	6501 E13	I
19A6 A6	6502 B13	I
19A8 B6	6503 C13	I
19A9 B12	7500 A5	I
19A10 B13	7501 A13	I
19A11 B14	7502 D12	I
19A12 B14	7503 E12	I
19A13 B14	7504 E13	I
19A14 B14	7505 C12	I
19A15 B14	7506 C12	I
19A16 B14	7507 C4	I
19A17 B14	7508 A12	I
19A18 B14	7509 A13	I
19A19 B14	7510 B1	I
19A20 B14	7511 B1	I
19A21 B14	7512 B1	I
19A22 B14	7513 B1	I
19A23 B14	7514 B1	I
19A24 B14	7515 B1	I
19A25 B14	7516 B1	I
19A26 B14	7517 B1	I
19A27 B14	7518 B1	I
19A28 B14	7519 B1	I
19A29 B14	7520 B1	I
19A30 B14	7521 B1	I
19A31 B14	7522 B1	I
19A32 B14	7523 B1	I
19A33 B14	7524 B1	I
19A34 B14	7525 B1	I
19A35 B14	7526 B1	I
19A36 B14	7527 B1	I
19A37 B14	7528 B1	I
19A38 B14	7529 B1	I
19A39 B14	7530 B1	I
19A40 B14	7531 B1	I
19A41 B14	7532 B1	I
19A42 B14	7533 B1	I
19A43 B14	7534 B1	I
19A44 B14	7535 B1	I
19A45 B14	7536 B1	I
19A46 B14	7537 B1	I
19A47 B14	7538 B1	I
19A48 B14	7539 B1	I
19A49 B14	7540 B1	I
19A50 B14	7541 B1	I
19A51 B14	7542 B1	I
19A52 B14	7543 B1	I
19A53 B14	7544 B1	I
19A54 B14	7545 B1	I
19A55 B14	7546 B1	I
19A56 B14	7547 B1	I
19A57 B14	7548 B1	I
19A58 B14	7549 B1	I
19A59 B14	7550 B1	I
19A60 B14	7551 B1	I
19A61 B14	7552 B1	I
19A62 B14	7553 B1	I
19A63 B14	7554 B1	I
19A64 B14	7555 B1	I
19A65 B14	7556 B1	I
19A66 B14	7557 B1	I
19A67 B14	7558 B1	I
19A68 B14	7559 B1	I
19A69 B14	7560 B1	I
19A70 B14	7561 B1	I
19A71 B14	7562 B1	I
19A72 B14	7563 B1	I
19A73 B14	7564 B1	I
19A74 B14	7565 B1	I
19A75 B14	7566 B1	I
19A76 B14	7567 B1	I
19A77 B14	7568 B1	I
19A78 B14	7569 B1	I
19A79 B14	7570 B1	I
19A80 B14	7571 B1	I
19A81 B14	7572 B1	I
19A82 B14	7573 B1	I
19A83 B14	7574 B1	I
19A84 B14	7575 B1	I
19A85 B14	7576 B1	I
19A86 B14	7577 B1	I
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19A88 B14	7579 B1	I
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19A90 B14	7581 B1	I
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19A95 B14	7586 B1	I
19A96 B14	7587 B1	I
19A97 B14	7588 B1	I
19A98 B14	7589 B1	I
19A99 B14	7590 B1	I
19A100 B14	7591 B1	I



- [illegible]

7

## Sound Processing







9

# Audio Converter

DAC\_ADC

A

B

C

D

E

F

A

B

C

D

E

F

1900 B1	F0002
2000 A4	F0003
2001 E1	F0005
2002 C7	F0007
2003 C4	F0009
2004 C4	F0011
2005 D5	F0012
2006 D5	F0014
2007 D8	F0016
2008 D7	F0017
2009 D4	F010 C
2010 E8	F011 E
2011 E6	F012 A
2012 E6	F013 A
2013 E1	F014 A
2014 E8	I001 A
2015 F1	I009 B
2016 F5	I010 C
2017 F6	I011 D
2018 F8	I012 D
2019 E5	I013 D
2020 F2	I014 F1
2021 F2	I015 E
2022 E3	I016 E
2023 D3	I017 F
2024 A2	I018 F
2025 A3	I019 F
2026 A3	I020 F
2027 D3	I022 E1
2028 D3	I023 F1
2029 C3	I024 B
2030 C3	I025 C
3000 A2	I026 D
3001 A7	I027 E1
3002 A5	I028 A
3003 B4	I029 C
3004 A3	I030 C
3005 B7	I031 A
3006 C7	I032 A
3007 C7	I033 A
3008 C5	I034 A
3009 C8	I035 A
3010 C5	I036 B
3011 D5	I037 E
3012 D5	I038 F
3013 F2	I039 F
3014 D2	
3015 E2	
3016 D2	
3017 D7	
3018 E6	
3019 E8	
3020 F1	
3021 F1	
3022 F8	
3023 E3	
3024 E3	
3025 B2	
3026 A2	
3027 B2	
3028 F5	
3029 C8	
3030 C2	
3032 F8	
5000 B3	
5001 E1	
5002 B2	
5003 B1	
5004 B1	
6000 A1	
7000 A5	
7001 A4	
7002-A B8	
7002-B E8	
7004 E4	
7005 C3	
F0001 E1	

CL 16532111\_010.eps  
C70801

**1** **RGB-YUV-Conv.** **2** **3** **4** **YUV\_CON**

5STBY from PS 5NSTBY from PS 5STBY from AIO1

5STBY 5NSTBY

7200-D TSH95 7200-C TSH95 7200-A TS95 7200-B TS95 7201 PDMC124EU

GNDV

D\_R from IC1 D\_B from IO1 D\_G from IO1

I201 I202 I203 I204 I207 I210 I211 I212 I213 I214 I215 I216 I224 I226

3207 1K 1% 3208 560R 3209 5K62 1% 3210 1K 1% 3211 1K 1% 3212 5K62 1% 3213 1K5 1% 3214 1K 1% 3215 1K 1% 3218 10R 3219 1K5 1% 3220 1K 1% 3221 750R 3222 2K2 1%

2200 2201 2203 47u

YUV\_ON from AIO1 V\_CON to I/O 1 U\_CON to I/O 1

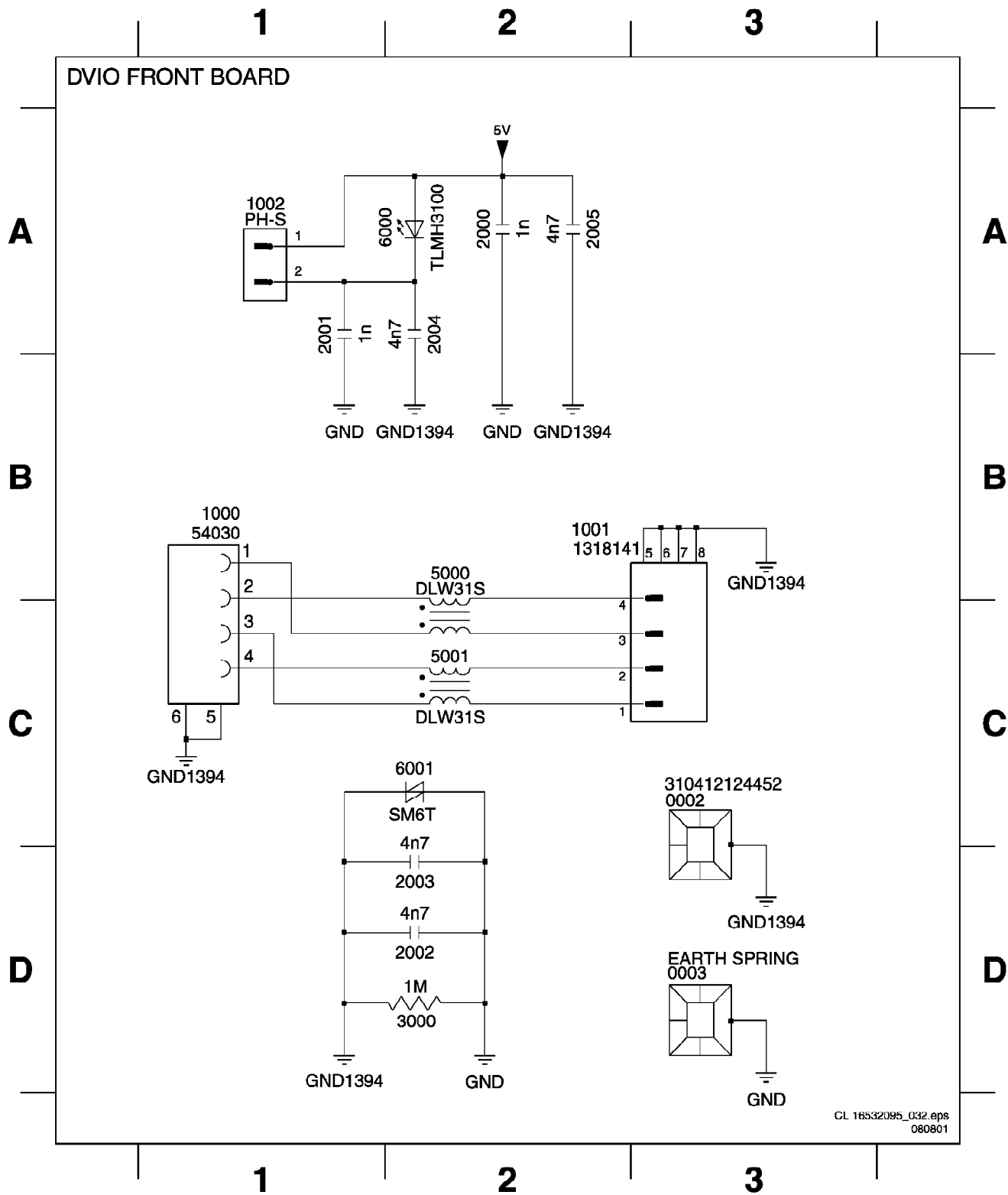
$$U = B/2 - 0,169R - 0,331G$$
  

$$V = R/2 - 0,419G - 0,081B$$

CL 16532111\_011.eps 070901

The schematic diagram illustrates the digital section of a DAC, organized into four vertical columns labeled 1 through 4 at the top and bottom. Column 1 is labeled 'Digital In / Out' and contains a large black box with the number '11'. It shows the digital input signal (DIGI IN) and the digital output signal (DIGITAL OUT). Column 2 is labeled 'not used' and contains a transformer (5470) and a 6RG component. Column 3 is labeled 'not used' and contains a 5VDD supply and a 100nF capacitor. Column 4 is labeled 'DIGI' and contains the digital output signal (DIGITAL OUT) and the optical output signal (OPTICAL OUT). The circuit includes various components such as resistors (e.g., 3470, 3472, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3485, 3486, 3487, 3488, 3489, 3490, 3491, 3492, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3500, 3501, 3502, 3503, 3504, 3505, 3506, 3507, 3508, 3509, 3510, 3511, 3512, 3513, 3514, 3515, 3516, 3517, 3518, 3519, 3520, 3521, 3522, 3523, 3524, 3525, 3526, 3527, 3528, 3529, 3530, 3531, 3532, 3533, 3534, 3535, 3536, 3537, 3538, 3539, 3540, 3541, 3542, 3543, 3544, 3545, 3546, 3547, 3548, 3549, 3550, 3551, 3552, 3553, 3554, 3555, 3556, 3557, 3558, 3559, 3560, 3561, 3562, 3563, 3564, 3565, 3566, 3567, 3568, 3569, 3570, 3571, 3572, 3573, 3574, 3575, 3576, 3577, 3578, 3579, 3580, 3581, 3582, 3583, 3584, 3585, 3586, 3587, 3588, 3589, 3590, 3591, 3592, 3593, 3594, 3595, 3596, 3597, 3598, 3599, 3600, 3601, 3602, 3603, 3604, 3605, 3606, 3607, 3608, 3609, 3610, 3611, 3612, 3613, 3614, 3615, 3616, 3617, 3618, 3619, 3620, 3621, 3622, 3623, 3624, 3625, 3626, 3627, 3628, 3629, 3630, 3631, 3632, 3633, 3634, 3635, 3636, 3637, 3638, 3639, 3640, 3641, 3642, 3643, 3644, 3645, 3646, 3647, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668, 3669, 3670, 3671, 3672, 3673, 3674, 3675, 3676, 3677, 3678, 3679, 3680, 3681, 3682, 3683, 3684, 3685, 3686, 3687, 3688, 3689, 3690, 3691, 3692, 3693, 3694, 3695, 3696, 3697, 3698, 3699, 3700, 3701, 3702, 3703, 3704, 3705, 3706, 3707, 3708, 3709, 3710, 3711, 3712, 3713, 3714, 3715, 3716, 3717, 3718, 3719, 3720, 3721, 3722, 3723, 3724, 3725, 3726, 3727, 3728, 3729, 3730, 3731, 3732, 3733, 3734, 3735, 3736, 3737, 3738, 3739, 3740, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3748, 3749, 3750, 3751, 3752, 3753, 3754, 3755, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3764, 3765, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3779, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 3787, 3788, 3789, 3790, 3791, 3792, 3793, 3794, 3795, 3796, 3797, 3798, 3799, 3800, 3801, 3802, 3803, 3804, 3805, 3806, 3807, 3808, 3809, 3810, 3811, 3812, 3813, 3814, 3815, 3816, 3817, 3818, 3819, 3820, 3821, 3822, 3823, 3824, 3825, 3826, 3827, 3828, 3829, 3830, 3831, 3832, 3833, 3834, 3835, 3836, 3837, 3838, 3839, 3840, 3841, 3842, 3843, 3844, 3845, 3846, 3847, 3848, 3849, 3850, 3851, 3852, 3853, 3854, 3855, 3856, 3857, 3858, 3859, 3860, 3861, 3862, 3863, 3864, 3865, 3866, 3867, 3868, 3869, 3870, 3871, 3872, 3873, 3874, 3875, 3876, 3877, 3878, 3879, 3880, 3881, 3882, 3883, 3884, 3885, 3886, 3887, 3888, 3889, 3890, 3891, 3892, 3893, 3894, 3895, 3896, 3897, 3898, 3899, 3900, 3901, 3902, 3903, 3904, 3905, 3906, 3907, 3908, 3909, 3910, 3911, 3912, 3913, 3914, 3915, 3916, 3917, 3918, 3919, 3920, 3921, 3922, 3923, 3924, 3925, 3926, 3927, 3928, 3929, 3930, 3931, 3932, 3933, 3934, 3935, 3936, 3937, 3938, 3939, 3940, 3941, 3942, 3943, 3944, 3945, 3946, 3947, 3948, 3949, 3950, 3951, 3952, 3953, 3954, 3955, 3956, 3957, 3958, 3959, 3960, 3961, 3962, 3963, 3964, 3965, 3966, 3967, 3968, 3969, 3970, 3971, 3972, 3973, 3974, 3975, 3976, 3977, 3978, 3979, 3980, 3981, 3982, 3983, 3984, 3985, 3986, 3987, 3988, 3989, 3990, 3991, 3992, 3993, 3994, 3995, 3996, 3997, 3998, 3999, 4000, 4001, 4002, 4003, 4004, 4005, 4006, 4007, 4008, 4009, 4010, 4011, 4012, 4013, 4014, 4015, 4016, 4017, 4018, 4019, 4020, 4021, 4022, 4023, 4024, 4025, 4026, 4027, 4028, 4029, 4030, 4031, 4032, 4033, 4034, 4035, 4036, 4037, 4038, 4039, 4040, 4041, 4042, 4043, 4044, 4045, 4046, 4047, 4048, 4049, 4050, 4051, 4052, 4053, 4054, 4055, 4056, 4057, 4058, 4059, 4060, 4061, 4062, 4063, 4064, 4065, 4066, 4067, 4068, 4069, 4070, 4071, 4072, 4073, 4074, 4075, 4076, 4077, 4078, 4079, 4080, 4081, 4082, 4083, 4084, 4085, 4086, 4087, 4088, 4089, 4090, 4091, 4092, 4093, 4094, 4095, 4096, 4097, 4098, 4099, 4100, 4101, 4102, 4103, 4104, 4105, 4106, 4107, 4108, 4109, 4110, 4111, 4112, 4113, 4114, 4115, 4116, 4117, 4118, 4119, 4120, 4121,

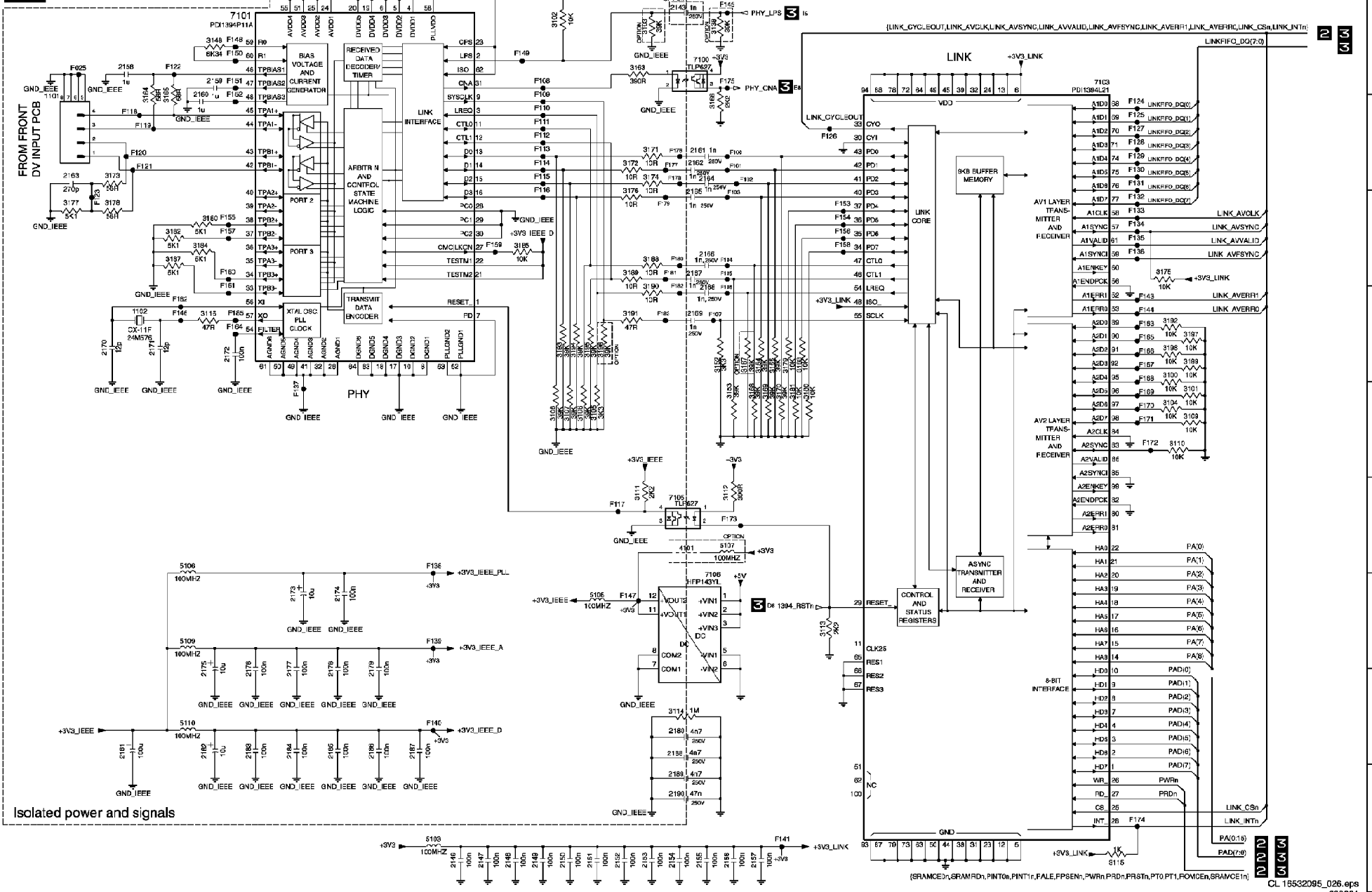




- 0002 C3
- 0003 D3
- 1000 B1
- 1001 B2
- 1002 A1
- 2000 A2
- 2001 A1
- 2002 D2
- 2003 D2
- 3000 D2
- 5000 B2
- 5001 C2
- 6000 A2
- 6001 C2

# 1394 INTERFACE

A  
B  
C  
D  
E  
F  
G  
H  
I



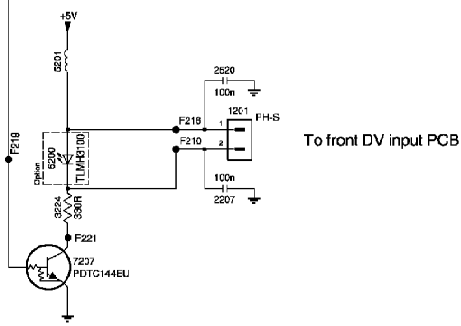
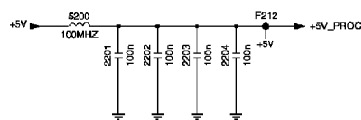
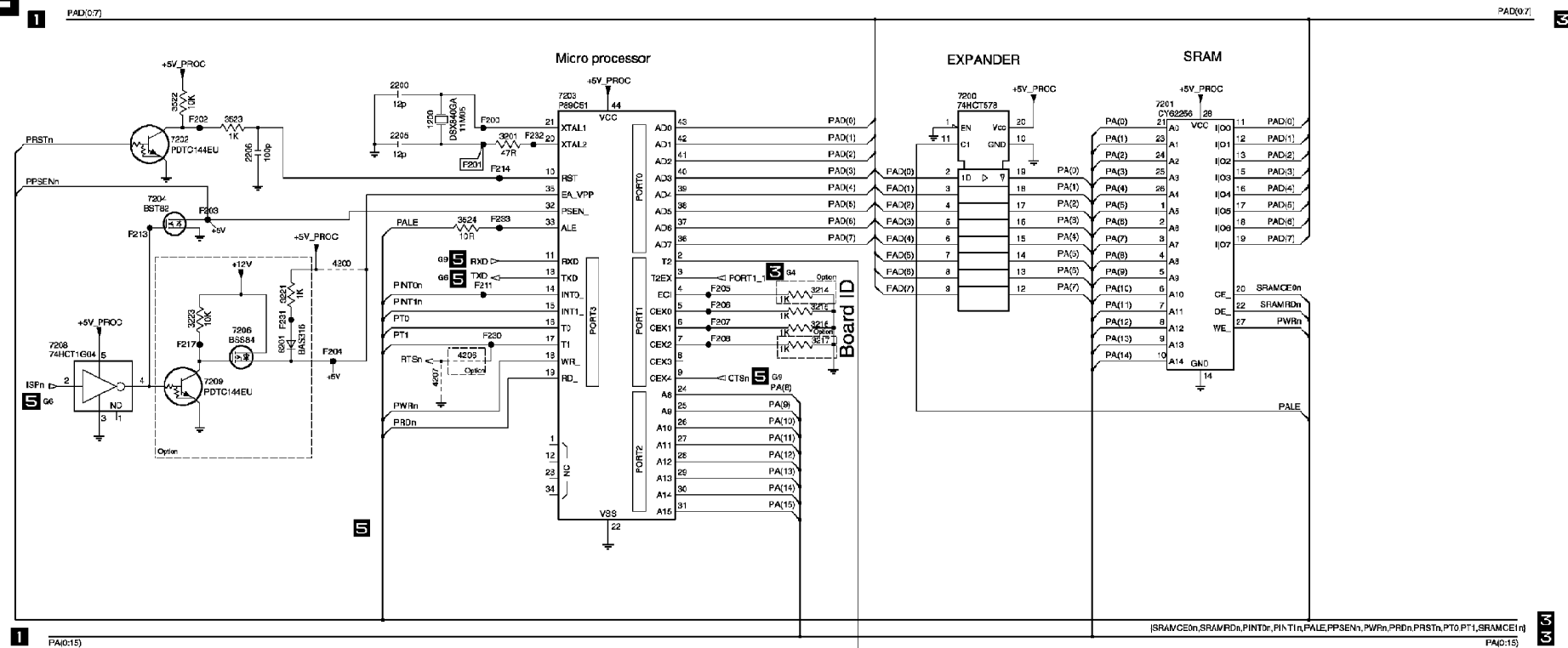
A  
B  
C  
D  
E  
F  
G  
H  
I

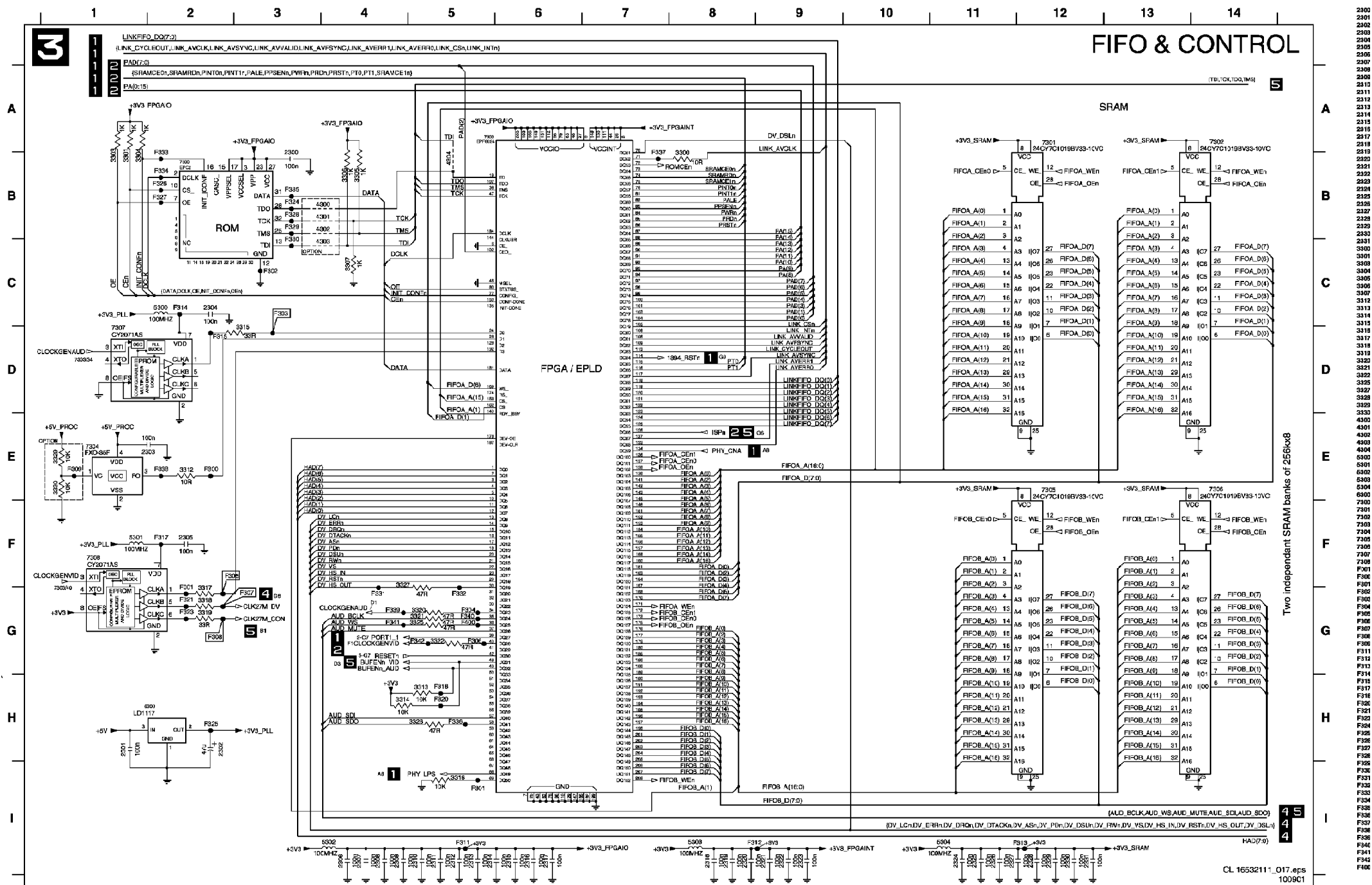
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1103 A3	F106
1104 B5	F100
1105 B5	F101
1106 B5	F102
1107 B5	F103
1108 B5	F104
1109 B5	F105
1110 B5	F106
1111 B5	F107
1112 B5	F108
1113 B5	F109
1114 B5	F110
1115 B5	F111
1116 B5	F112
1117 B5	F113
1118 B5	F114
1119 B5	F115
1120 B5	F116
1121 B5	F117
1122 B5	F118
1123 B5	F119
1124 B5	F120
1125 B5	F121
1126 B5	F122
1127 B5	F123
1128 B5	F124
1129 B5	F125
1130 B5	F126
1131 B5	F127
1132 B5	F128
1133 B5	F129
1134 B5	F130
1135 B5	F131
1136 B5	F132
1137 B5	F133
1138 B5	F134
1139 B5	F135
1140 B5	F136
1141 B5	F137
1142 B5	F138
1143 B5	F139
1144 B5	F140
1145 B5	F141
1146 B5	F142
1147 B5	F143
1148 B5	F144
1149 B5	F145
1150 B5	F146
1151 B5	F147
1152 B5	F148
1153 B5	F149
1154 B5	F150
1155 B5	F151
1156 B5	F152
1157 B5	F153
1158 B5	F154
1159 B5	F155
1160 B5	F156
1161 B5	F157
1162 B5	F158
1163 B5	F159
1164 B5	F160
1165 B5	F161
1166 B5	F162
1167 B5	F163
1168 B5	F164
1169 B5	F165
1170 B5	F166
1171 B5	F167
1172 B5	F168
1173 B5	F169
1174 B5	F170
1175 B5	F171
1176 B5	F172
1177 B5	F173
1178 B5	F174
1179 B5	F175
1180 B5	F176
1181 B5	F177
1182 B5	F178
1183 B5	F179
1184 B5	F180
1185 B5	F181
1186 B5	F182
1187 B5	F183
1188 B5	F184
1189 B5	F185
1190 B5	F186
1191 B5	F187
1192 B5	F188
1193 B5	F189
1194 B5	F190
1195 B5	F191
1196 B5	F192
1197 B5	F193
1198 B5	F194
1199 B5	F195
1200 B5	F196

# 2 MICROPROCESSOR

A  
B  
C  
D  
E  
F  
G  
H  
I

A  
B  
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G  
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I

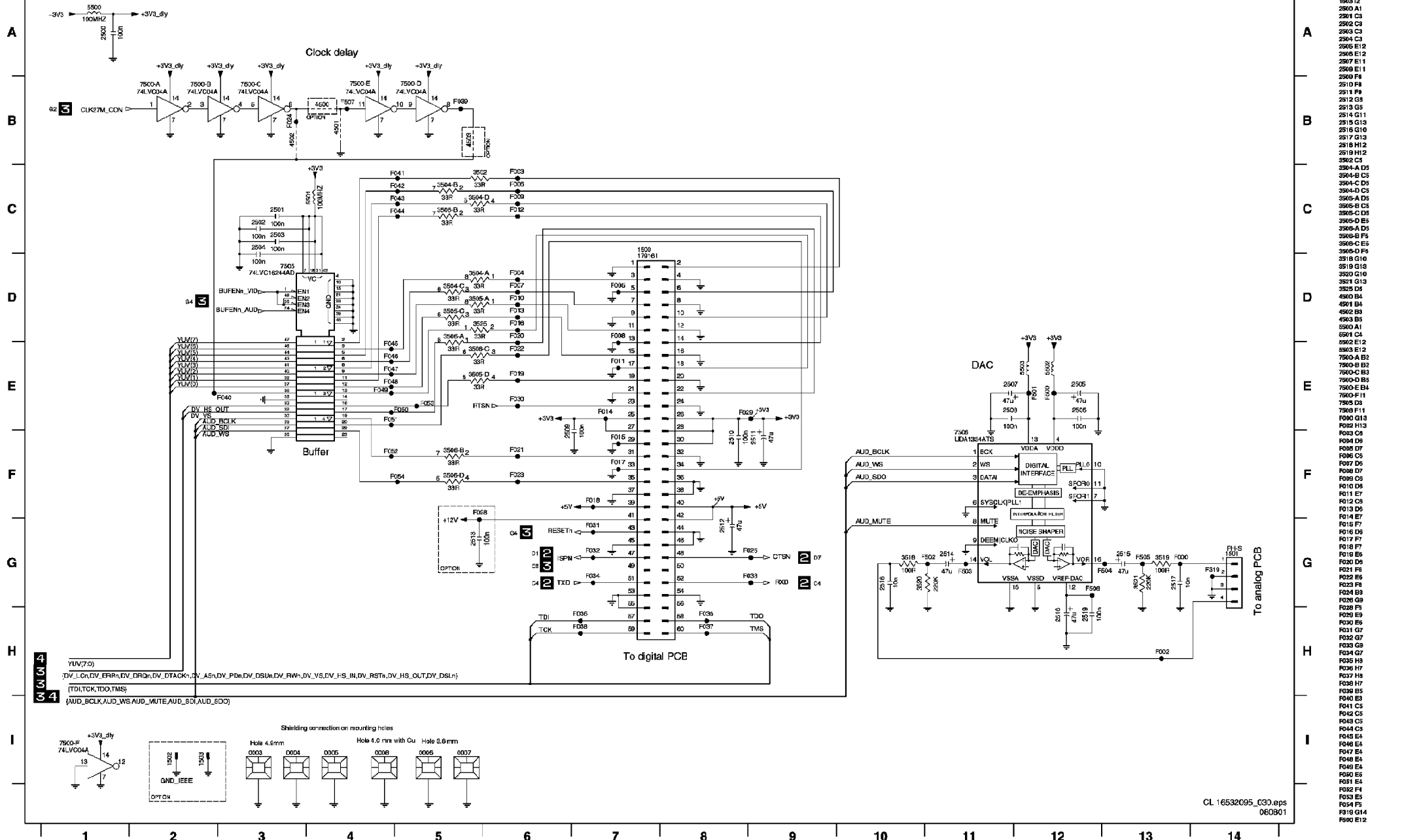






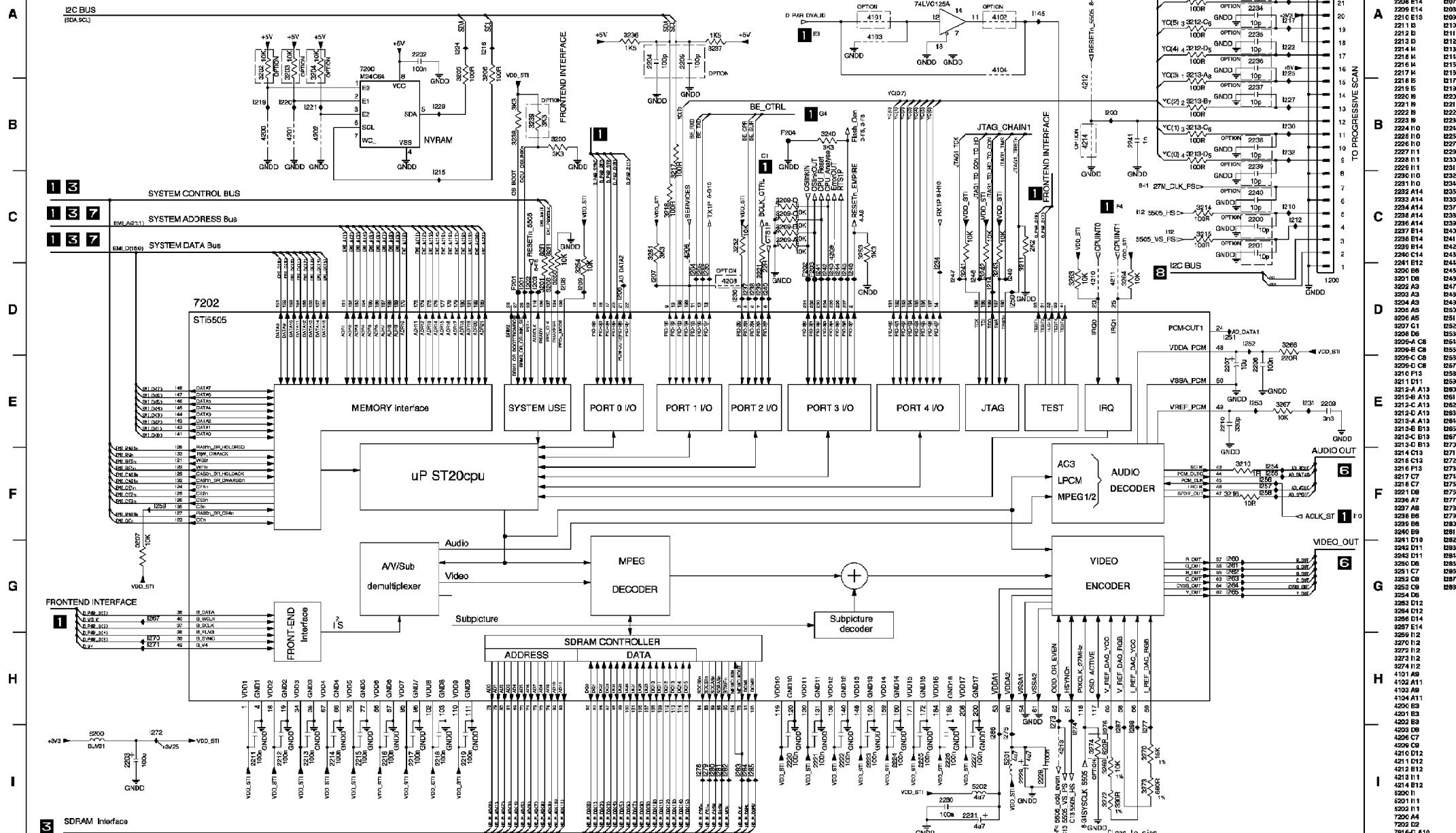


# 5 AUDIO & VIDEO OUTPUT





# 2 AV DECODER ST15505



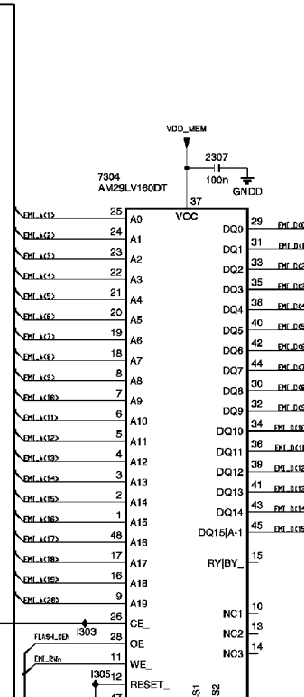
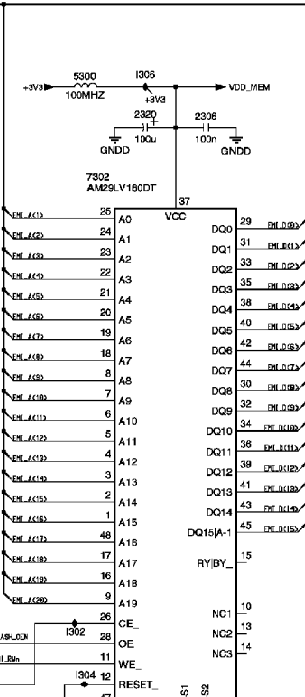
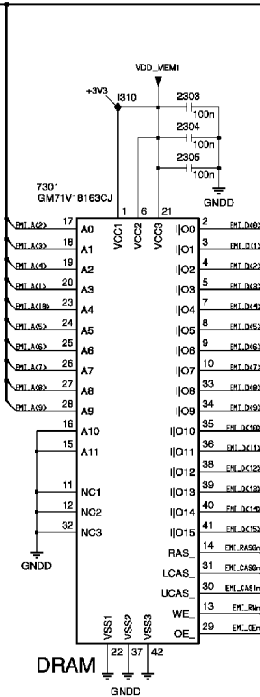
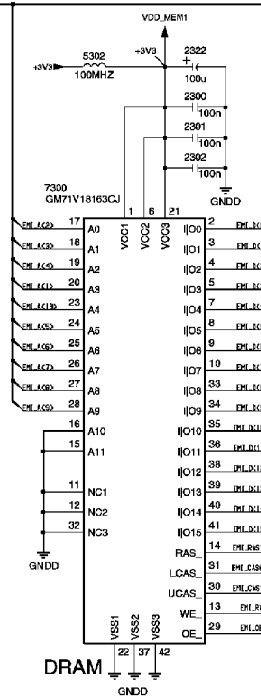
1206 D14	1145
1206 C14	800
1201 C14	801
1202 A6	1002
1203 I1	819
1204 A7	801
1205 A7	805
1207 E13	805
1208 E14	807
1209 E14	809
1210 E18	809
1211 I3	810
1212 I3	811
1213 I3	812
1214 I4	813
1215 I4	814
1216 I4	815
1217 I4	816
1218 I4	817
1219 I4	818
1220 I4	819
1221 I4	820
1222 I4	821
1223 I4	822
1224 I10	823
1225 I10	824
1226 I10	825
1227 I11	826
1228 I11	827
1229 I11	828
1230 I11	829
1231 I11	830
1232 I11	831
1233 I11	832
1234 I11	833
1235 I11	834
1236 I11	835
1237 I11	836
1238 I11	837
1239 I11	838
1240 I11	839
1241 I12	840
1242 I12	841
1243 I12	842
1244 I12	843
1245 I12	844
1246 I12	845
1247 I12	846
1248 I12	847
1249 I12	848
1250 I12	849
1251 I12	850
1252 I12	851
1253 I12	852
1254 I12	853
1255 I12	854
1256 I12	855
1257 I12	856
1258 I12	857
1259 I12	858
1260 I12	859
1261 I12	860
1262 I12	861
1263 I12	862
1264 I12	863
1265 I12	864
1266 I12	865
1267 I12	866
1268 I12	867
1269 I12	868
1270 I12	869
1271 I12	870
1272 I12	871
1273 I12	872
1274 I12	873
1275 I12	874
1276 I12	875
1277 I12	876
1278 I12	877
1279 I12	878
1280 I12	879
1281 I12	880
1282 I12	881
1283 I12	882
1284 I12	883
1285 I12	884
1286 I12	885
1287 I12	886
1288 I12	887
1289 I12	888
1290 I12	889
1291 I12	890
1292 I12	891
1293 I12	892
1294 I12	893
1295 I12	894
1296 I12	895
1297 I12	896
1298 I12	897
1299 I12	898
1300 I12	899

# 3 SYSTEM MEMORY ( FLASH + DRAM ) & AV DECODER BUFFER MEMORY

## 2 SDRAM INTERFACE

### 2 SYSTEM DATA Bus

### 2 SYSTEM ADDRESS Bus



### 2 SYSTEM CONTROL BUS

(EMI\_RW, FLASH\_CEN, EMI\_FAS1, EMI\_CE1, EMI\_CAS1, EMI\_CAS0, EMI\_RAS0, EMI\_CEN)

### FLASH

### FLASH

### HOST SDRAM

### HOST SDRAM

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070801

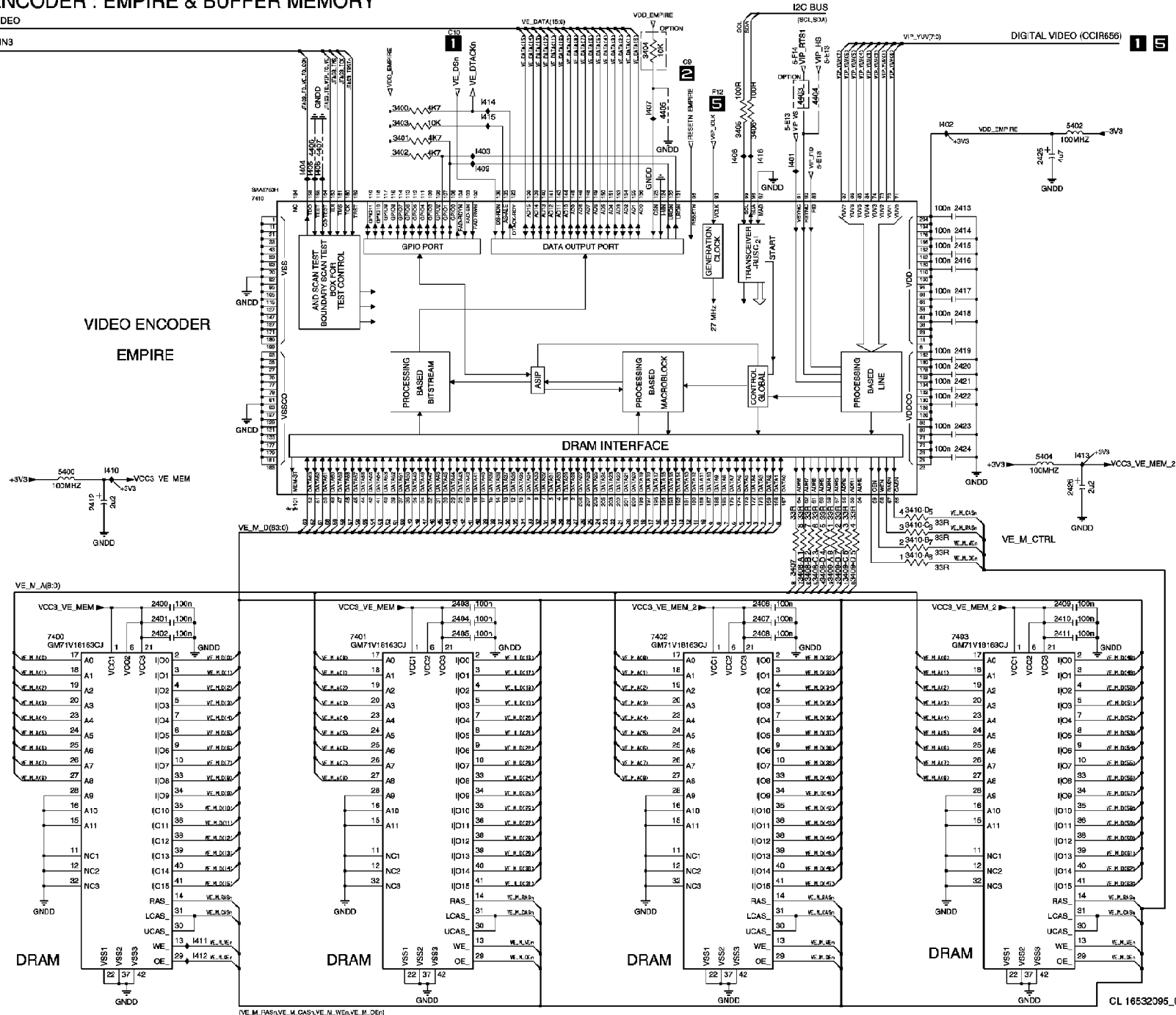
4

## VIDEO ENCODER : EMPIRE &amp; BUFFER MEMORY

1 MPEG2 VIDEO

1 JTAG\_CHAIN3

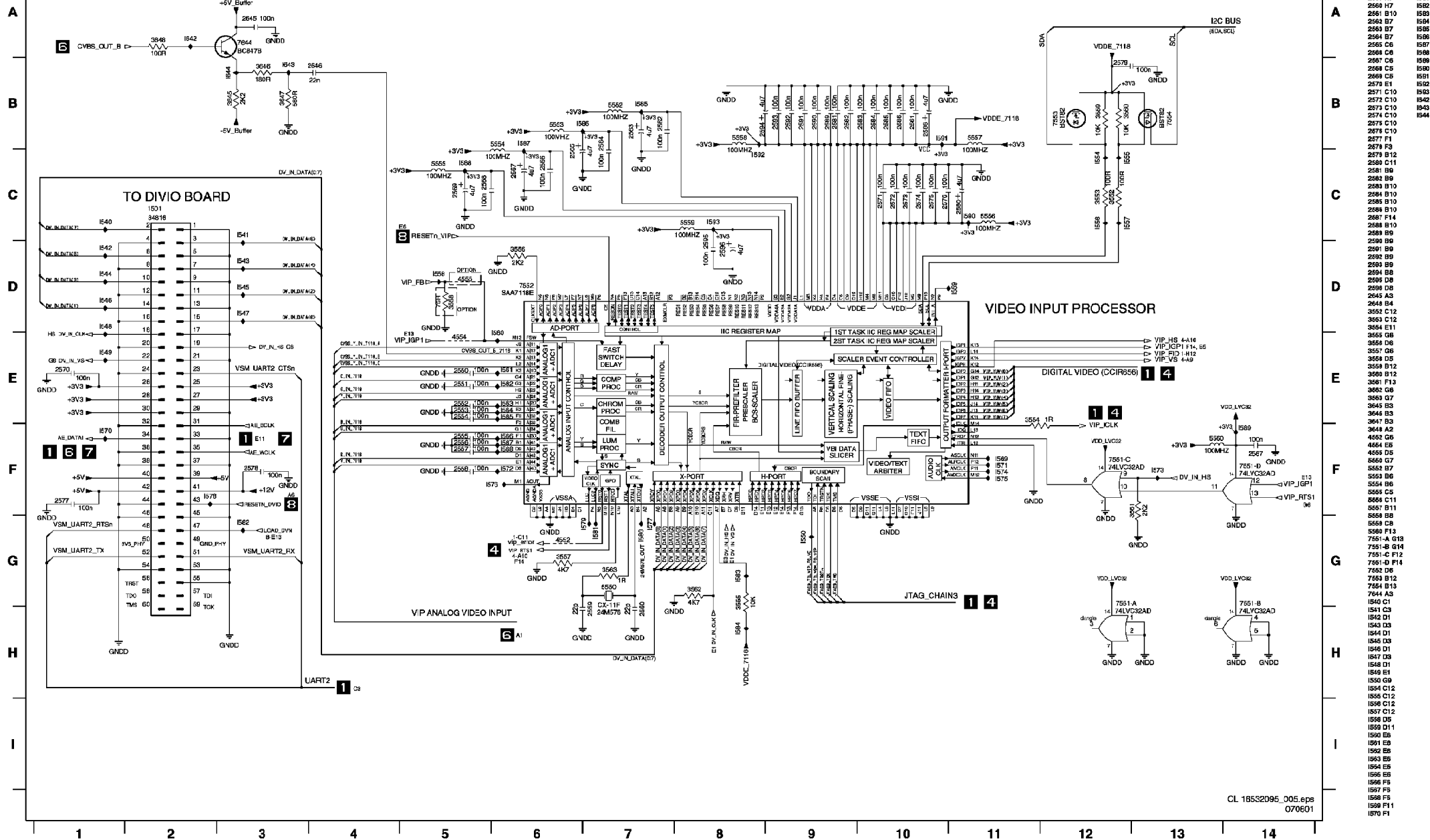
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CL 16532095\_004.eps  
070801

2400 F3  
2401 F3  
2402 F3  
2403 F8  
2404 F8  
2405 F8  
2406 F9  
2407 F9  
2408 F9  
2409 F12  
2410 F12  
2411 F12  
2412 S2  
2413 F11  
2414 F11  
2415 C11  
2416 C11  
2417 C11  
2418 C11  
2419 D11  
2420 D11  
2421 D11  
2422 D11  
2423 D11  
2424 D11  
2425 F12  
2426 F12  
2427 A6  
2428 A6  
2429 A6  
2430 A6  
2431 A6  
2432 A6  
2433 A6  
2434 A6  
2435 A6  
2436 A6  
2437 A6  
2438 F10  
2439 F10  
2440 F10  
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2500 F10

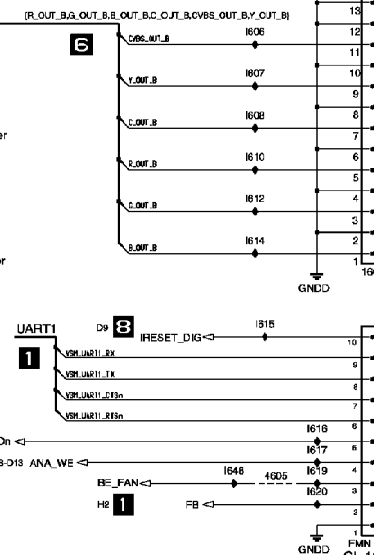
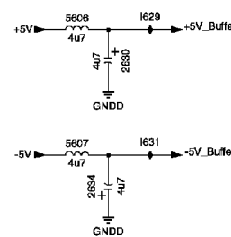
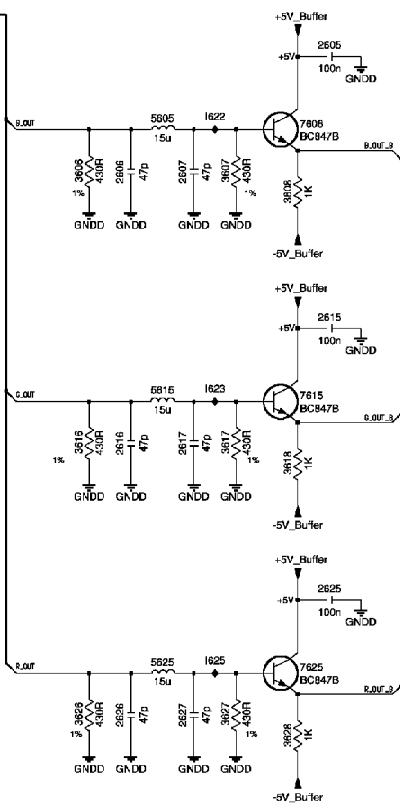
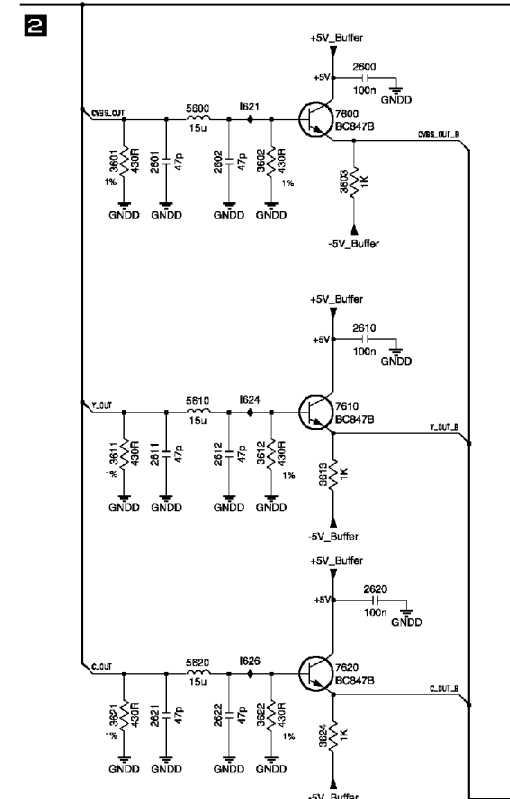
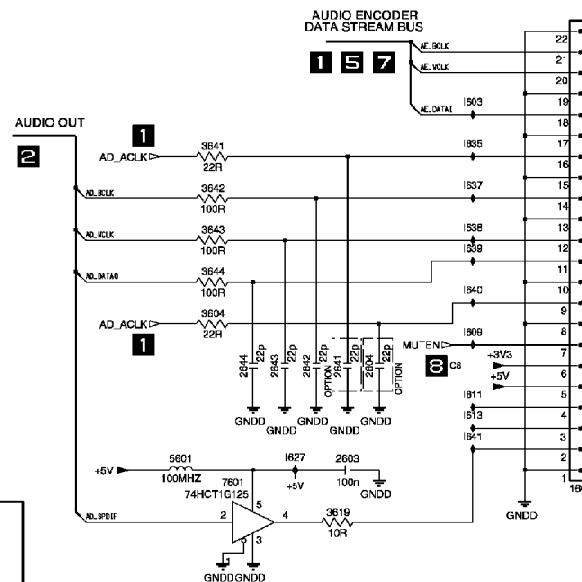
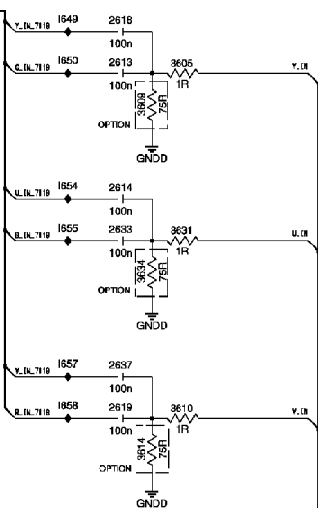
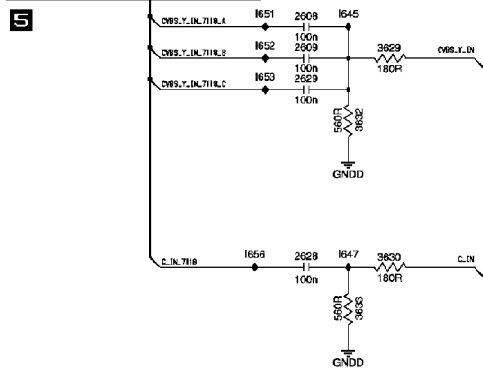
1410 E3  
1411 H  
1412 H  
1413 D12  
1414 A7  
1415 A7  
1416 B9

# 5 VIDEO INPUT PROCESSOR (VIP) & DIVIO INTERFACE



## 6 A/V INTERFACE

VIP ANALOG VIDEO INPUT



ANALOG BOARD INTERFACE AUDIO IN / OUT

ANALOG BOARD INTERFACE VIDEO IN / OUT

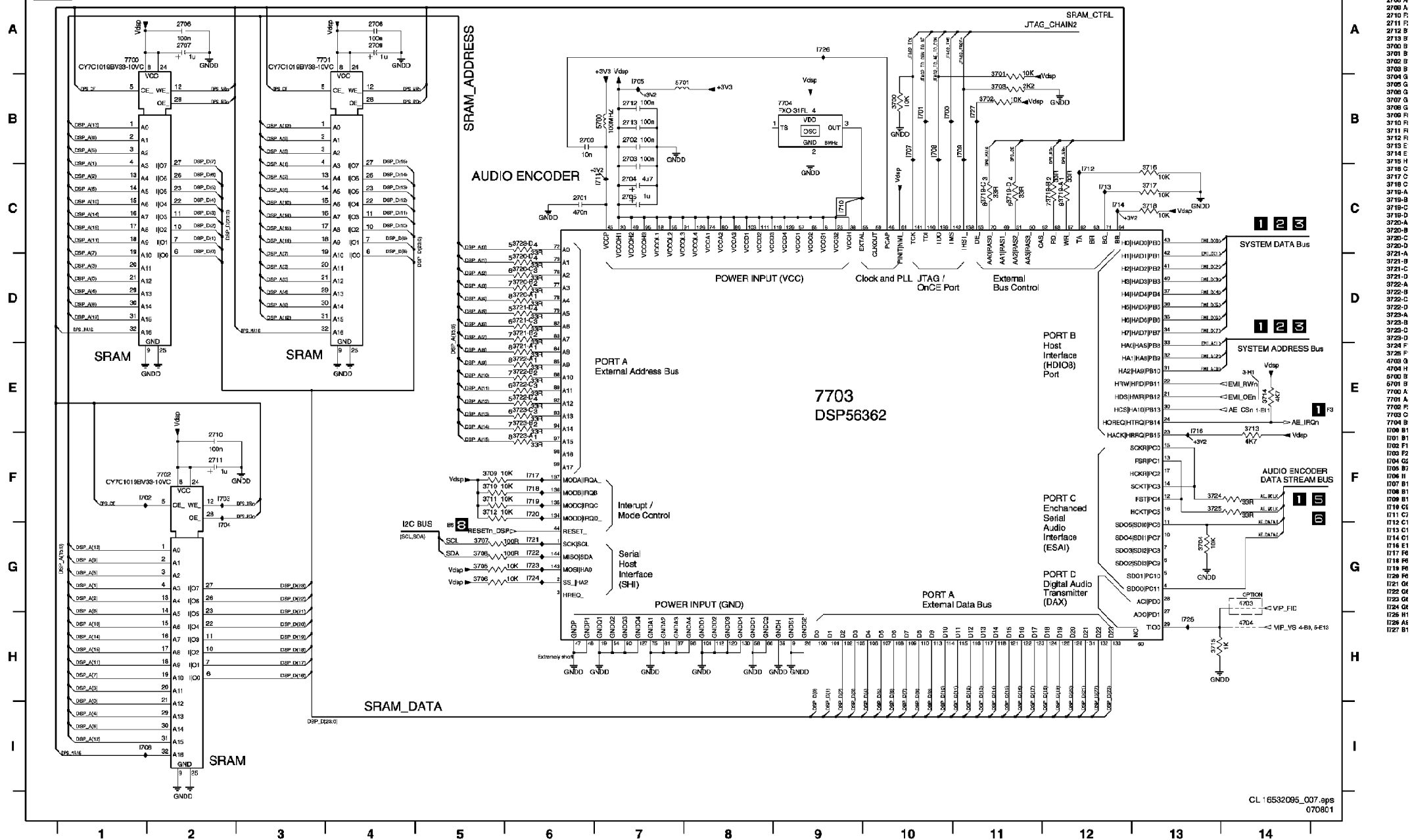
## ANALOG BOARD INTERFACE CONTROL

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070801

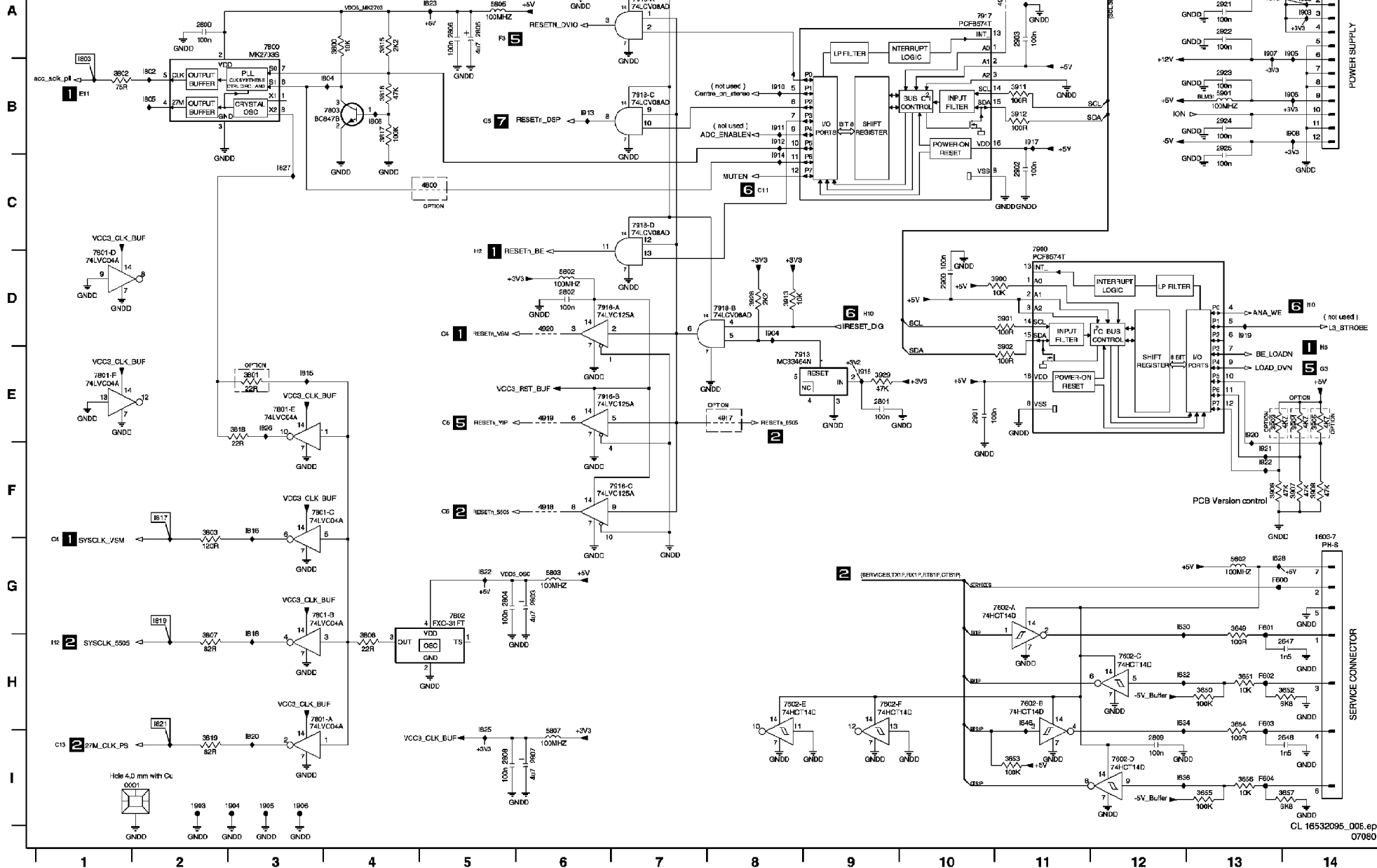
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15022 D12  
2500 E3  
2501 E2  
2502 E2  
2503 D10  
2504 C10  
2505 D7  
2506 E5  
2507 E9  
2508 A3  
2509 A3  
2510 F3  
2511 A3  
2512 Q2  
2513 A6  
2514 B6  
2515 F7  
2516 G8  
2517 Q6  
2518 A8  
2519 C6  
2520 H3  
2521 I2  
2522 I2  
2525 H7  
2526 I5  
2527 I6  
2528 B3  
2529 A3  
2530 G8  
2531 H6  
2532 C6  
2533 C6  
2534 C9  
2535 C9  
2536 E5  
2537 E6  
2538 A8  
2539 D10  
2540 H3  
2541 C9  
2542 C10  
2543 C10  
2544 C9  
2545 C9  
2546 B9  
2547 H11  
2548 B9  
2549 A8  
2550 E2  
2551 D8  
2552 E5  
2553 E5  
2554 B9  
2555 H8  
2556 E3  
2557 H8  
2558 E3  
2559 E3  
2560 E1  
2561 C11  
2562 E1  
2563 E1  
2564 E1  
2565 E1  
2566 E1  
2567 E1  
2568 E1  
2569 E1  
2570 E1  
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# 7 AUDIO ENCODER DSP & BUFFER MEMORY

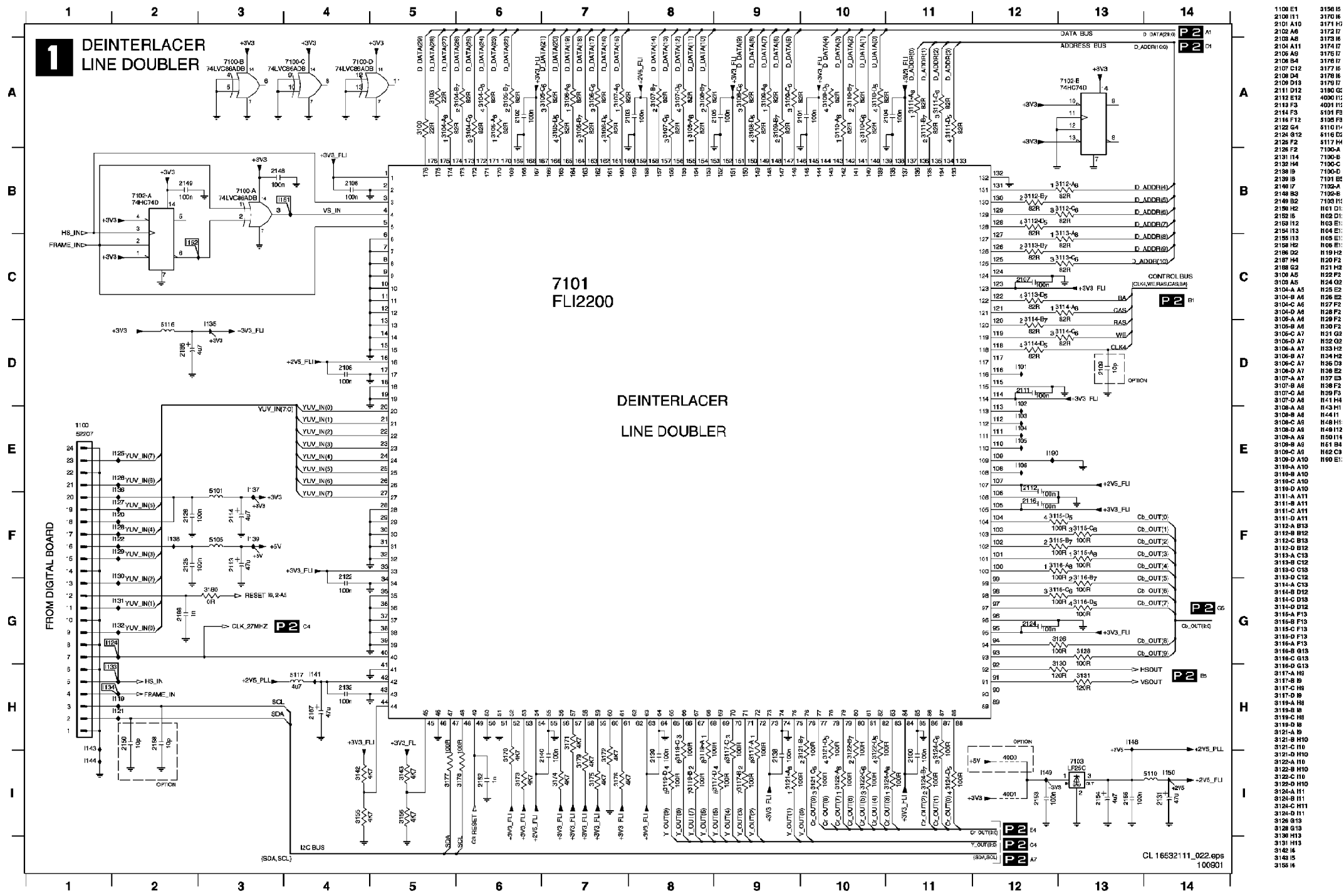


# 8 SYSTEM CLOCK GENERATION, RESET, POWER SUPPLY I/O EXPANDERS & SERVICE CONNECTION



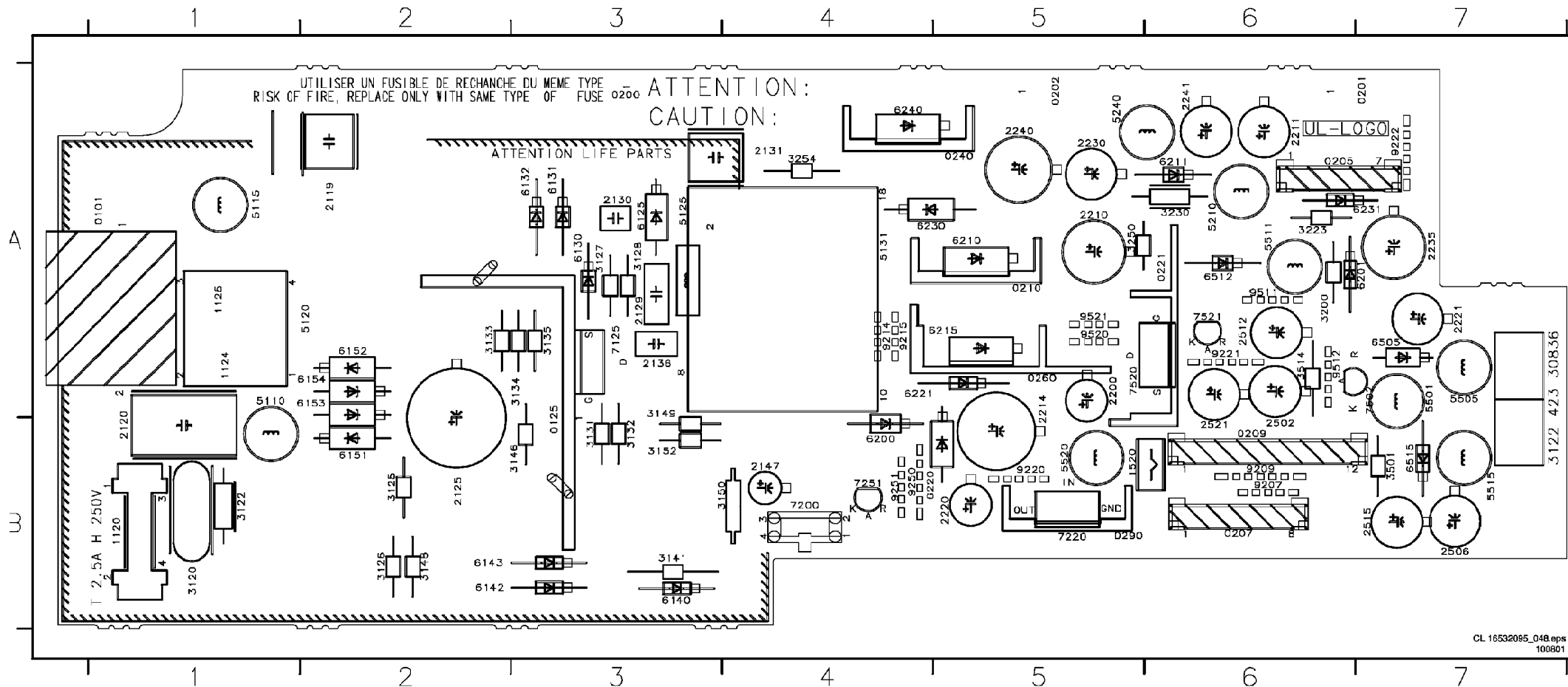
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1603-7 G14	I603
1603 A14	I604
1603 D	I605
1904 I3	I606
1905 I3	I607
1905 I3	I608
2547 H14	I609
2548 I14	I610
2800 A2	I611
2801 E2	I612
2802 D8	I613
2803 G6	I614
2804 G6	I615
2805 A5	I616
2805 A5	I617
2807 I6	I618
2808 I5	I619
2809 I12	I620
2900 D10	I621
2901 E10	I622
2902 C11	I623
2903 A11	I624
2904 A8	I625
2921 A13	I626
2922 A13	I627
2923 B13	I628
2924 B13	I629
2925 B13	I630
3549 B13	I631
3550 H11	I632
3551 H13	I633
3552 H14	I634
3553 H11	I635
3554 H13	I636
3555 H13	I637
3556 H13	I638
3557 H14	I639
3558 A4	I640
3559 E3	I641
3560 F2	I642
3561 H4	I643
3562 H2	I644
3563 A4	I645
3564 B4	I646
3565 B4	I647
3566 E3	I648
3567 E11	I649
3568 E11	I650
3569 E14	I651
3570 F14	I652
3571 F14	I653
3572 D8	I654
3573 E3	I655
3574 E3	I656
3575 E3	I657
3576 E3	I658
3577 E3	I659
3578 E3	I660
3579 E3	I661
3580 E3	I662
3581 A7	I663
3582 D6	I664
3583 D6	I665
3584 A5	I666
3585 A5	I667
3586 I6	I668
3587 I6	I669
3588 I6	I670
3589 I6	I671
3590 I6	I672
3591 I6	I673
3592 I6	I674
3593 I6	I675
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3595 I6	I677
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3597 I6	I679
3598 I6	I680
3599 I6	I681
3600 I6	I682
3601 I6	I683
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3603 I6	I685
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3610 I6	I692
3611 I6	I693
3612 I6	I694
3613 I6	I695
3614 I6	I696
3615 I6	I697
3616 I6	I698
3617 I6	I699
3618 I6	I700
3619 I6	I701
3620 I6	I702
3621 I6	I703
3622 I6	I704
3623 I6	I705
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3625 I6	I707
3626 I6	I708
3627 I6	I709
3628 I6	I710
3629 I6	I711
3630 I6	I712
3631 I6	I713
3632 I6	I714
3633 I6	I715
3634 I6	I716
3635 I6	I717
3636 I6	I718
3637 I6	I719
3638 I6	I720
3639 I6	I721
3640 I6	I722

# 1 DEINTERLACER LINE DOUBLER



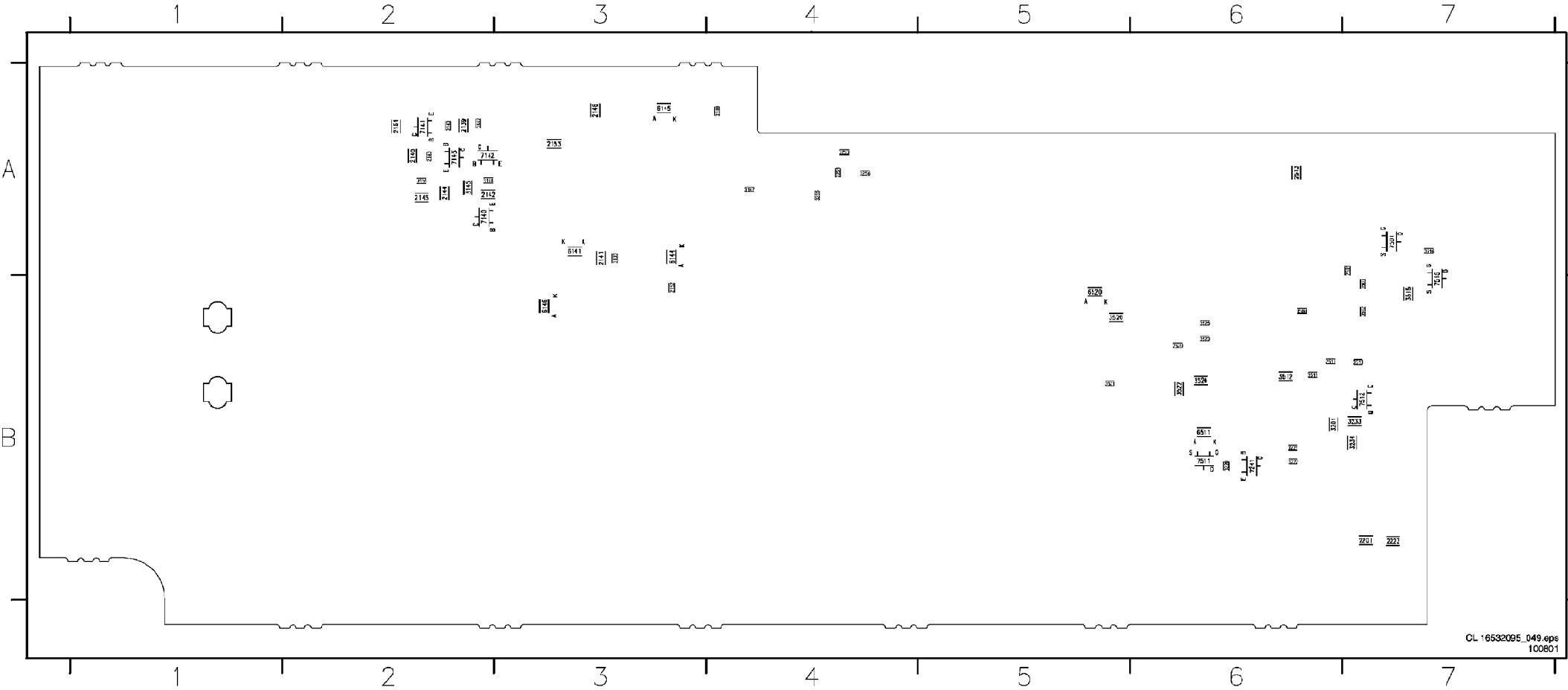
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0101 A1	0209 B6	1520 B5	2130 A3	2212 A5	2240 A5	2521 B6	3128 A3	3141 B3	3223 A6	5115 A1	5501 A7	6129 B1	6151 B2	6211 A6	6505 A7	7502 A7	9214 A4	9511 A6
0125 B3	0210 A5	2119 A2	2131 A4	2214 A5	2241 A6	3120 B1	3129 B2	3146 B3	3230 A6	5120 A2	5505 A7	6130 A3	6152 A2	6215 A5	6512 A6	7520 A5	9215 A4	9512 A6
0200 A3	0221 A6	2120 B1	2136 A3	2215 A5	2242 A4	3122 B1	3131 B3	3148 B2	3250 A5	5121 A1	5511 A6	6131 A3	6153 A2	6220 B4	6515 B7	7521 A6	9220 B5	9520 A5
0201 A7	0240 A5	2125 B2	2147 B4	2220 B5	2502 B6	3123 A1	3132 B3	3149 A3	3254 A4	5125 A3	5515 B7	6132 A3	6154 A2	6221 A4	7125 A3	9110 B1	9221 A6	9521 A5
0202 A5	0260 A5	2126 B2	2200 A5	2221 A7	2506 B7	3125 B2	3133 A2	3150 B3	3501 B7	5131 A4	5520 B5	6140 B3	6200 B4	6230 A4	7200 B4	9115 A1	9222 A7	
0205 A6	0290 B5	2127 B1	2210 A5	2230 A5	2512 A6	3126 B2	3134 A3	3152 B3	3514 A6	5210 A6	6125 A3	6142 B2	6201 A7	6231 A7	7220 B5	9207 B6	9250 B4	
0207 B6	1120 B1	2129 A3	2211 A6	2235 A7	2515 B7	3127 A3	3135 A3	3200 A6	5110 A1	5240 A5	6128 B1	6143 B2	6210 A5	6240 A4	7251 B4	9209 B6	9251 B4	

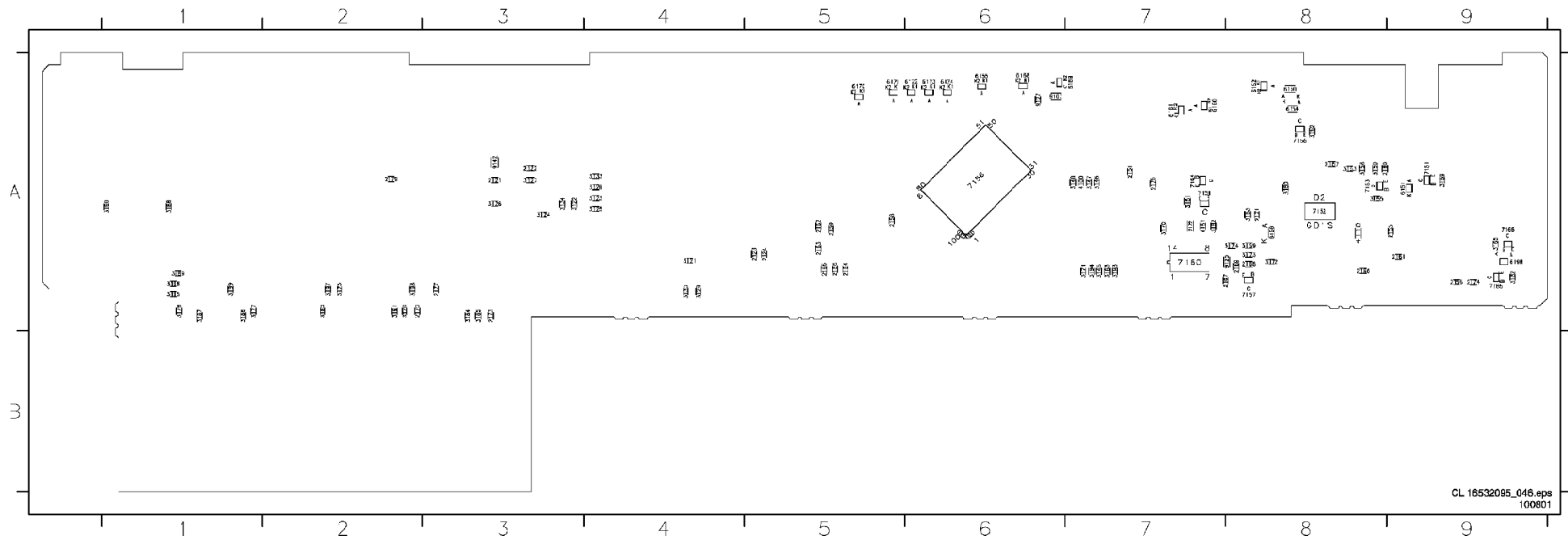


Layout Power Supply (Overview Bottom View)

2139 A2	2143 A2	2151 A2	2222 A5	2511 B6	3140 A4	3145 A2	3220 B6	3234 B7	3502 B7	3512 B6	3520 B5	3524 B6	6145 A3	7140 A2	7241 B6	7515 B7
2140 A2	2144 A2	2152 B3	2223 B7	2513 A6	3142 A2	3147 A4	3221 B6	3253 A4	3503 B7	3513 B7	3521 B5	3525 B6	6146 B3	7141 A2	7501 A7	
2141 A3	2145 A2	2153 A3	2251 A4	2520 B6	3143 A2	3151 A2	3222 B6	3255 A4	3504 B6	3515 B7	3522 B6	6141 A3	6511 B6	7142 A2	7511 B6	
2142 A2	2146 A3	2201 B7	2501 A7	3139 A3	3144 A2	3201 B6	3233 B7	3256 A4	3511 B6	3516 A7	3523 B6	6144 A3	6520 B5	7143 A2	7512 B7	



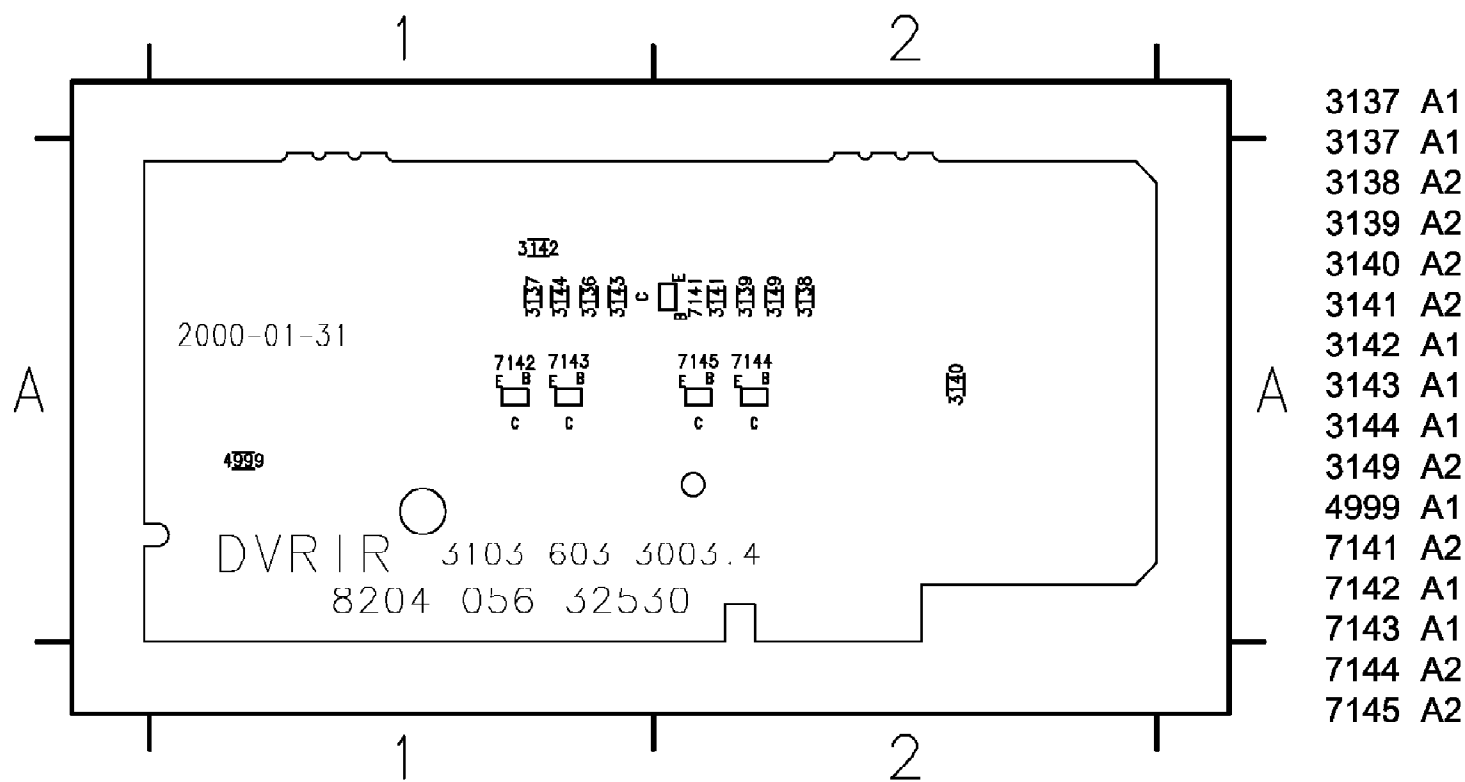




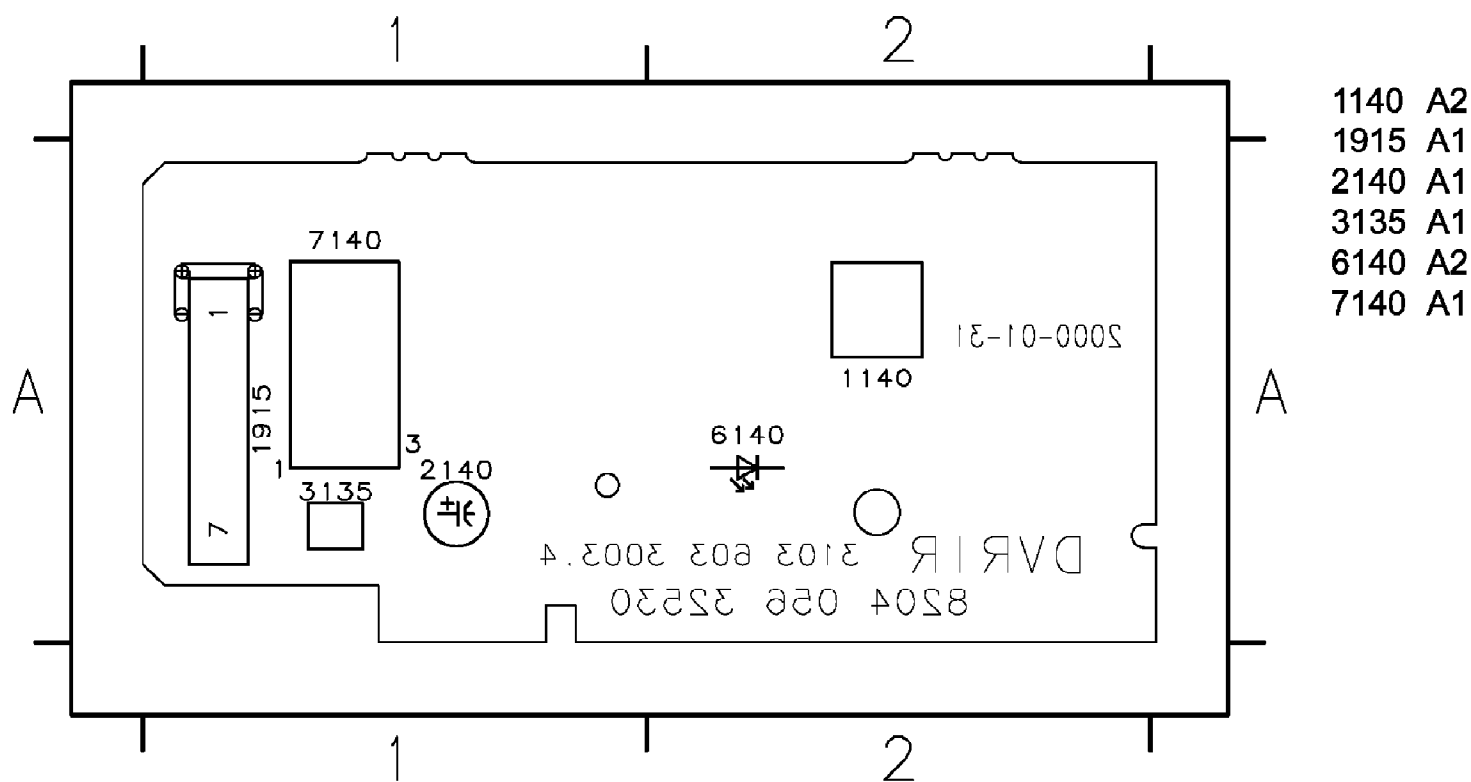
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2123 A5	3148 A7	4151
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2151 A7	3151 A7	6151
2155 A9	3153 A8	6152
2156 A9	3155 A8	6154
2157 A8	3158 A8	6155
2158 A5	3159 A9	6156
2159 A5	3160 A8	6160
2160 A8	3162 A8	6161
2161 A9	3163 A8	6168
2162 A5	3165 A9	6169
2163 A5	3169 A8	6170
2164 A5	3170 A7	6171
2165 A5	3171 A7	6172
2166 A5	3172 A8	6173
2167 A7	3173 A6	6174
2168 A8	3174 A8	6198
2169 A8	3175 A2	7151
2170 A2	3176 A2	7152
2171 A8	3177 A1	7153
2172 A7	3178 A1	7155
2173 A3	3180 A2	7156
2174 A9	3182 A9	7157
2175 A7	3183 A7	7158
2177 A3	3184 A3	7160
2179 A2	3185 A3	7164
2180 A8	3186 A1	7165
3121 A4	3187 A1	7166
3122 A3	3188 A1	9103
3123 A4	3189 A1	9125
3124 A3	3190 A1	9127
3125 A4	3191 A2	9142
3126 A3	3192 A7	
3127 A3	3193 A7	
3128 A4	3194 A7	
3129 A4	3195 A1	
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3134 A3	3198 A2	
3145 A7	3199 A1	







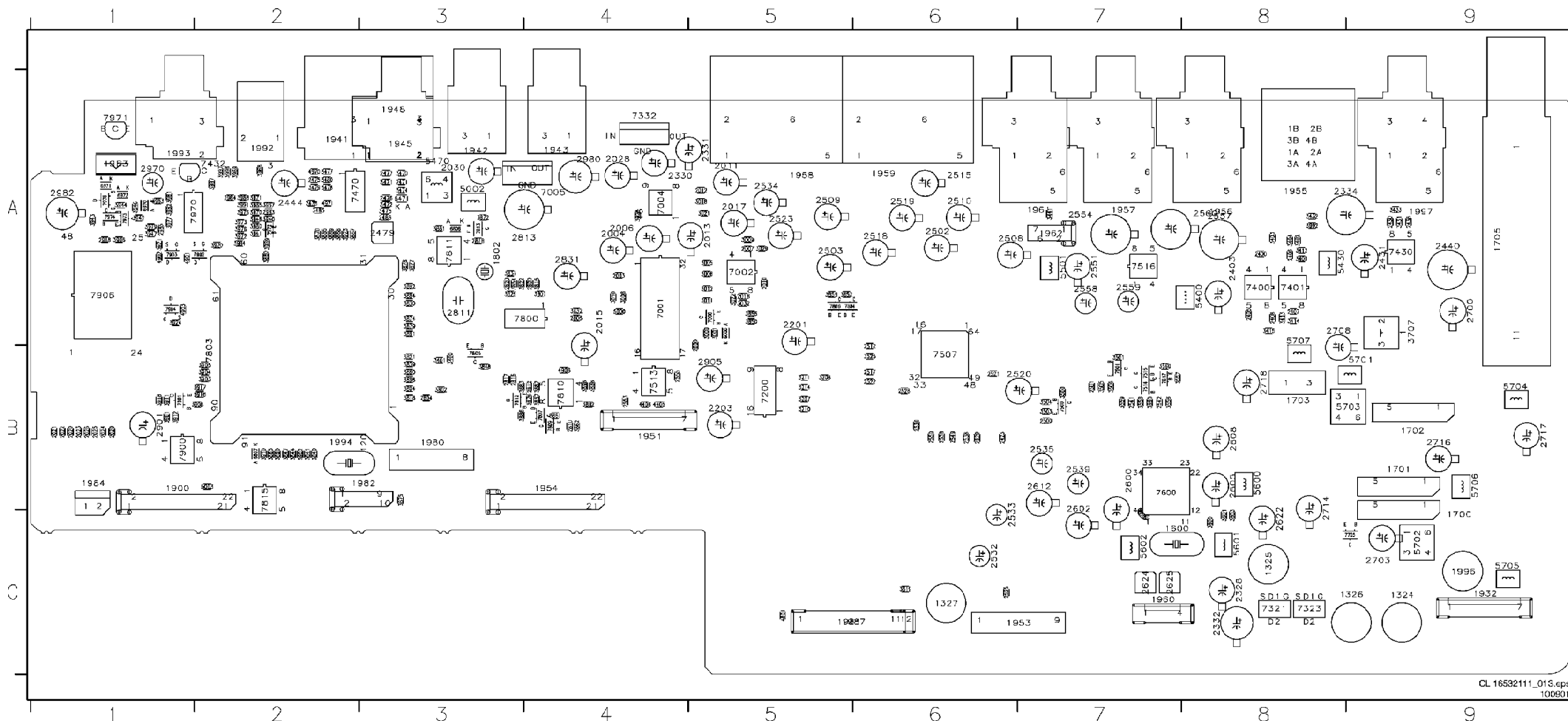
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 7145 A2



1140 A2  
 1915 A1  
 2140 A1  
 3135 A1  
 6140 A2  
 7140 A1

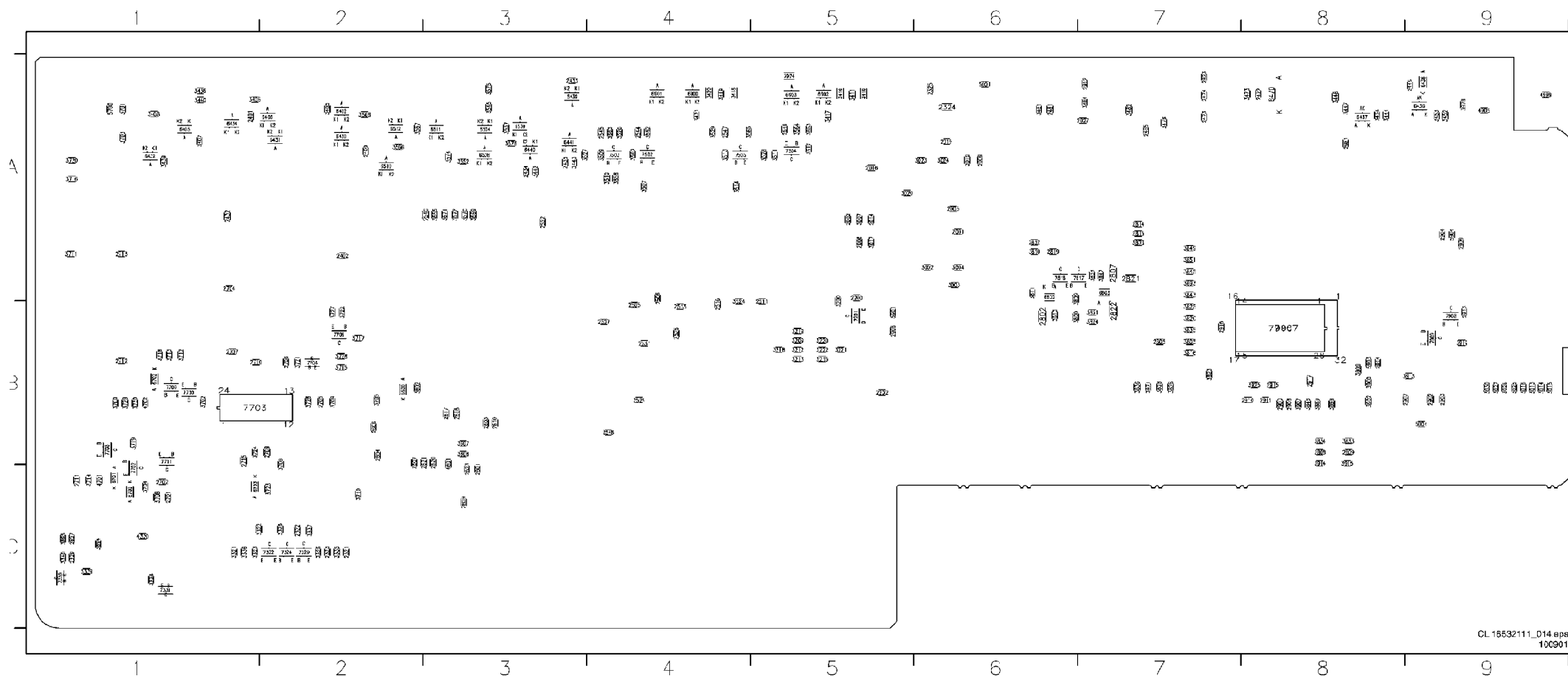
# Layout Analog Board (Overview Top View)

1324 C9	1953 C7	2000 B5	2030 A3	2475 A2	2523 A5	2558 A7	2810 B4	3006 A5	3403 A8	3500 B7	3819 C3	3882 B4	3888 B4	3924 A1	3931 A1	4971 A2	6805 A3	7507 B6	7901 B1
1325 C8	1954 B4	2003 A4	2201 A5	2476 A3	2525 C6	2559 A7	2811 A3	3008 A4	3404 A8	3501 B7	3821 B3	3886 B2	3890 B2	3940 A2	3932 A1	5000 A4	6807 B2	7513 E4	7902 A2
1326 C9	1955 A8	2004 A4	2203 B5	2477 A3	2528 B6	2560 A8	2812 B4	3009 A5	3409 A8	3503 B7	3822 A3	3887 A2	3891 A3	3941 A2	3933 A1	5002 A3	6870 A1	7514 E7	7903 A1
1327 C8	1956 A8	2006 A4	2328 C8	2478 A2	2529 B6	2600 B7	2813 A3	3010 A4	3412 A8	3504 B7	3823 A3	3888 A2	3892 A2	3942 A1	3934 A2	5003 B2	6871 A1	7515 E7	7904 A1
1900 C7	1957 A7	2007 A5	2330 A4	2479 A3	2530 B6	2602 B7	2816 B3	3011 A5	3413 A8	3505 B7	3830 A3	3889 A2	3896 B3	3943 A1	3935 A2	5400 A8	6872 A1	7516 A7	7906 A1
1700 C9	1958 A5	2010 A5	2331 A5	2486 A3	2532 C6	2605 B8	2817 B3	3012 A5	3414 A8	3506 B7	3832 A4	3870 A2	3898 B4	3944 A1	3937 A2	5430 A8	7000 A5	7517 B7	7970 A1
1701 B9	1959 A6	2011 A5	2332 C8	2500 B7	2533 C6	2608 B8	2818 A3	3018 A5	3415 A8	3525 B6	3837 A3	3872 A3	3901 B1	3945 A1	3938 A2	5470 A3	7001 A4	7600 E7	7971 A1
1702 B9	1960 C7	2012 A5	2334 A3	2501 B7	2534 A5	2612 B7	2820 A3	3021 A5	3431 A9	3556 B7	3839 B3	3874 A3	3903 B2	3947 A1	3939 A2	5501 A7	7002 A5	7705 C9	7972 A2
1703 B8	1961 A7	2013 A5	2400 A8	2502 A6	2535 B7	2622 C8	2831 A4	3022 A5	3432 A8	3557 B7	3840 B2	3875 B3	3904 B2	3948 A2	3930 B7	5800 B8	7004 A4	7800 A4	7973 A1
1705 A9	1962 A7	2015 A4	2403 A8	2503 A5	2536 B6	2624 C7	2901 B1	3028 A4	3433 A9	3558 B7	3841 B2	3876 B4	3905 B2	3967 A2	3931 A2	5801 C8	7005 A4	7803 E2	7974 A1
1802 A3	1980 B3	2017 A5	2405 A3	2508 A6	2538 B6	2625 C7	2905 B5	3029 A5	3441 A7	3559 B7	3844 B2	3877 A3	3906 A1	3968 A2	3932 A8	5802 C7	7200 B5	7804 A5	7975 A1
1900 B1	1981 C5	2018 A5	2406 A3	2509 A5	2539 B7	2700 A9	2918 A1	3032 A5	3470 A3	3560 B7	3847 B2	3878 A3	3908 B2	3969 A2	3936 A2	5701 B9	7321 C8	7805 E3	
1910 C3	1982 B3	2020 B1	2407 A3	2510 A6	2541 B7	2703 C9	2970 A1	3110 C4	3471 A3	3560 C8	3848 B3	3879 A2	3910 B2	3970 A2	3937 A2	5702 C8	7323 C8	7806 A5	
1911 C3	1983 A1	2021 B1	2408 A3	2512 B6	2542 B7	2708 A8	2980 A4	3207 B5	3472 A3	3561 C8	3850 A5	3880 A2	3911 B1	3971 A2	3938 A2	5703 B3	7324 A4	7807 E4	
1932 C9	1984 B1	2022 B1	2423 B5	2515 A6	2549 B6	2714 B8	2992 A1	3208 B5	3474 A3	3562 A5	3852 A5	3881 A3	3912 B1	3972 A2	3939 A2	5704 B9	7400 A8	7809 E4	
1941 A2	1987 C6	2023 B1	2430 A9	2517 B6	2550 B6	2716 B9	2993 A2	3210 B5	3475 A3	3570 A9	3854 A3	3882 B4	3916 B2	3973 A2	4801 C5	5705 C9	7401 A8	7810 E4	
1942 A3	1992 A2	2024 B1	2431 A9	2518 A6	2551 A7	2717 B9	2994 A2	3211 B5	3477 A2	3602 E3	3855 A5	3883 B3	3917 B2	3975 A2	4901 A1	5706 B9	7430 A9	7811 A3	
1943 A4	1993 A1	2025 B1	2438 A9	2519 A6	2553 B4	2718 B8	2995 A1	3214 B5	3478 A2	3804 E3	3857 B4	3884 A3	3918 B1	3976 A2	4902 A1	5707 A8	7432 A2	7812 E3	
1945 A3	1994 B2	2026 B1	2440 A9	2520 B7	2554 A7	2800 A4	3000 A5	3400 B3	3479 A2	3807 A4	3859 A5	3885 A2	3920 A2	3977 A1	4903 A1	5902 B2	7470 A2	7813 A3	
1948 A3	1996 C9	2028 A4	2444 A2	2521 B6	2555 B4	2804 B3	3001 A5	3401 B3	3480 A2	3815 A4	3860 B3	3886 B3	3921 A1	3979 A1	4906 B4	6000 A5	7500 B7	7815 E2	
1951 B4	1997 A9	2029 B1	2471 A3	2522 B6	2557 A8	2805 A4	3005 A5	3402 A8	3483 A2	3818 B3	3861 B4	3887 B4	3923 A2	3980 A2	4970 A2	6471 A3	7501 B7	7900 B1	

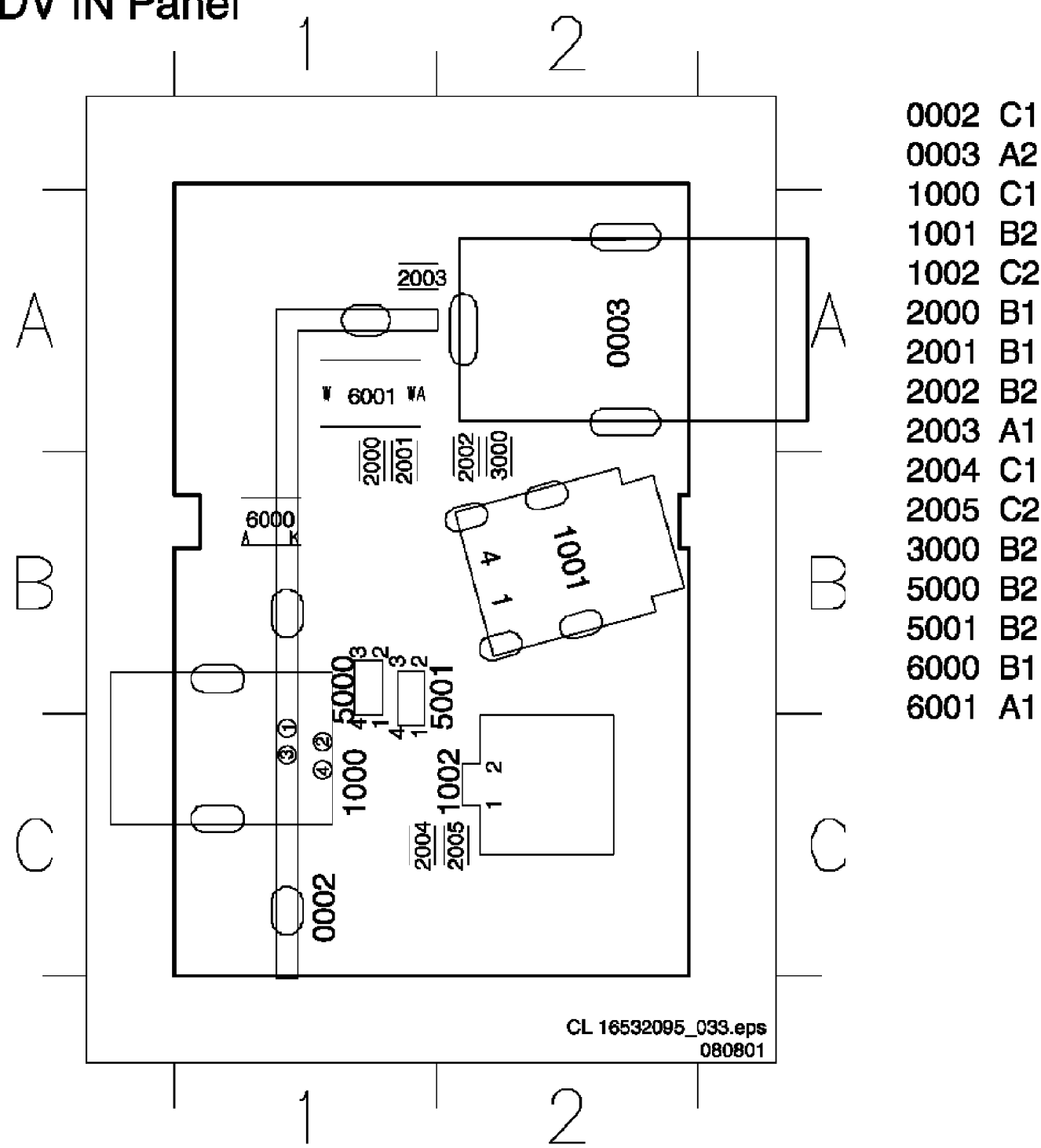


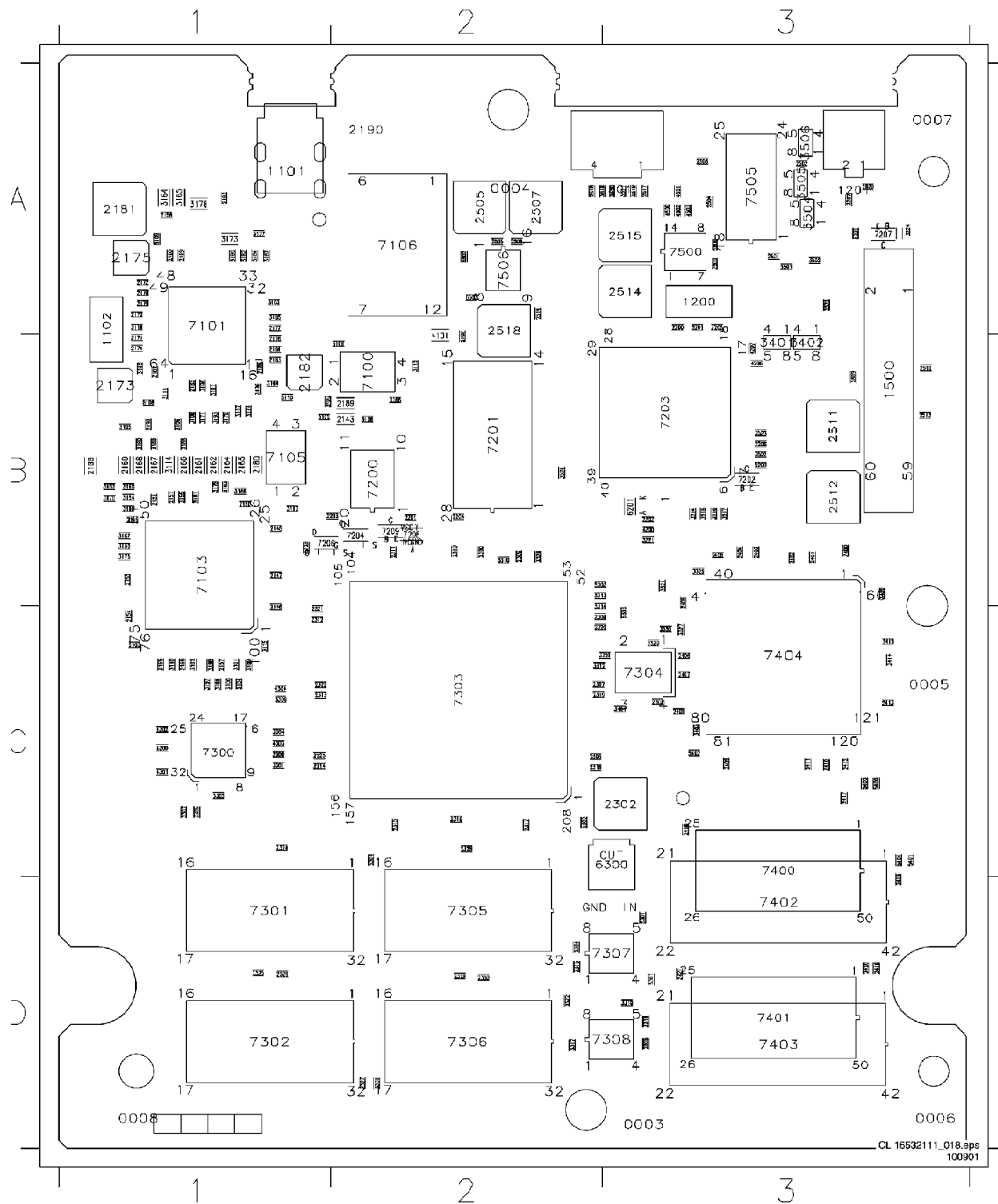
### Layout Analog Board (Overview Bottom View)

2001	A5	2321	C2	2472	A8	2607	B2	2715	B1	2907	E9	3016	B9	3109	C6	3326	A4	3416	A5	3491	A6	3564	A5	3709	B2	3729	B1	3836	B7	3907	B8	5700	A1	6439	A3	6902	A5	7706	E2
2002	A3	2322	C2	2473	A7	2609	C3	2802	B6	2908	E8	3017	A5	3111	C6	3335	C2	3417	A5	3482	A7	3568	A2	3710	C2	3730	B1	3838	A7	3909	B8	5901	B5	6440	A3	6903	A5	7707	E1
2005	A6	2323	C2	2474	A7	2610	B3	2805	B7	2909	A9	3019	A6	3112	C6	3336	C1	3418	A4	3484	A7	3569	A3	3711	A*	3800	B6	3942	A7	3913	B9	5903	B8	6441	A3	7100	C7	7708	E1
2008	A3	2324	A6	2481	A6	2616	B3	2807	A7	2910	E8	3020	A5	3113	C6	3337	A3	3419	A4	3502	A4	3570	A3	3712	B*	3805	B7	3843	A7	3914	B8	5904	A9	6470	A3	7101	C7	7816	A6
2009	A6	2324	B4	2485	A7	2617	B3	2808	B8	2911	E8	3023	A6	3200	B5	3337	C2	3420	A4	3507	A4	3571	A3	3713	B*	3809	A6	3843	A7	3915	B8	6100	C7	6504	A3	7201	B5	7817	A7
2014	A3	2325	A6	2505	B4	2620	B3	2809	B8	2912	A7	3024	A6	3209	B5	3338	C1	3421	A4	3509	A4	3572	A3	3714	C1	3810	A6	3846	B8	3919	B9	6101	C7	6508	A3	7322	C2	7905	E8
2016	A3	2326	B4	2506	A4	2621	B3	2814	A7	2913	E9	3025	B9	3212	B5	3338	C1	3436	A1	3510	A4	3575	A3	3715	B2	3811	A6	3849	A7	3925	B8	6102	O6	6509	A3	7324	C2	7907	E8
2019	A6	2329	C*	2507	B4	2623	C3	2815	A7	2914	E8	3026	B9	3213	B5	3340	C1	3439	A1	3511	A5	3576	A3	3716	A*	3813	B6	3851	A7	3974	A5	6103	O6	6510	A2	7329	C2	7908	E9
2027	A7	2340	A3	2511	B6	2701	C1	2819	A6	2915	E8	3027	B9	3215	B5	3343	A3	3440	A1	3512	A5	3602	B2	3717	B2	3816	B7	3853	A5	3978	A9	6104	O6	6511	A3	7330	C1	7909	E9
2100	C7	2347	A*	2513	B4	2702	C1	2821	A7	2916	E7	3030	B9	3218	B5	3365	A4	3442	A3	3513	A4	3606	B3	3718	B*	3820	B7	3858	A4	4101	C7	6402	A2	6512	A2	7331	C1		
2101	C7	2348	B4	2531	B4	2704	A1	2822	B7	2917	E8	3100	C7	3219	B5	3386	A2	3443	A3	3514	A4	3607	B3	3719	B*	3823	B7	3871	B7	4102	C7	6403	A2	6800	B2	7502	A4		
2102	C7	2401	A1	2544	A4	2705	B2	2823	A7	2931	A8	3101	C7	3220	B5	3387	A2	3444	A8	3524	B4	3700	B1	3720	A*	3823	B7	3873	A7	4320	C1	6405	A1	6700	C1	7503	A4		
2103	C7	2402	A2	2545	A4	2706	B2	2827	C1	2932	A6	3102	C7	3221	B5	3393	A3	3447	A8	3526	A4	3701	A1	3721	B2	3824	B7	3889	B8	4601	B3	6430	A2	6701	C1	7504	A5		
2103	A7	2403	A1	2546	A3	2707	B2	2828	A7	2933	A6	3103	C7	3222	B5	3394	B3	3448	A8	3527	A4	3702	A1	3721	B2	3825	B7	3890	B8	4602	B3	6431	A2	6702	C1	7505	A6		
2104	C7	2432	A1	2552	A3	2709	B2	2900	B8	3004	A6	3104	C7	3321	C1	3476	A1	3452	A9	3528	A3	3703	A1	3722	C2	3828	B7	3894	C1	4702	B1	6432	A1	6703	C1	7700	B1		
2106	O6	2433	A3	2601	C3	2710	B1	2902	B8	3007	A5	3105	C7	3322	C1	3407	A1	3463	A9	3552	A3	3704	C1	3724	B*	3831	B7	3895	C1	4905	A9	6434	A1	6802	A6	7701	B1		
2200	A3	2434	A3	2603	B3	2711	C1	2903	B8	3013	E9	3106	C7	3323	C1	3408	A1	3454	A8	3555	A3	3705	B2	3726	B2	3833	B8	3899	B8	4999	A9	6436	A9	6803	A7	7702	C1		
2202	B6	2435	A3	2604	B2	2712	B1	2904	A9	3014	E9	3107	C7	3325	C2	3410	A5	3473	A8	3562	A4	3706	B2	3727	B2	3833	B7	3900	B8	5001	A6	6437	A8	6900	A4	7703	B1		
2316	B4	2445	A9	2606	B2	2713	A1	2906	B5	3015	E9	3108	C7	3326	C2	3411	A5	3476	A7	3563	A4	3708	C1	3728	B2	3834	B8	3902	B8	5004	B9	6438	A9	6901	A4	7704	B2		

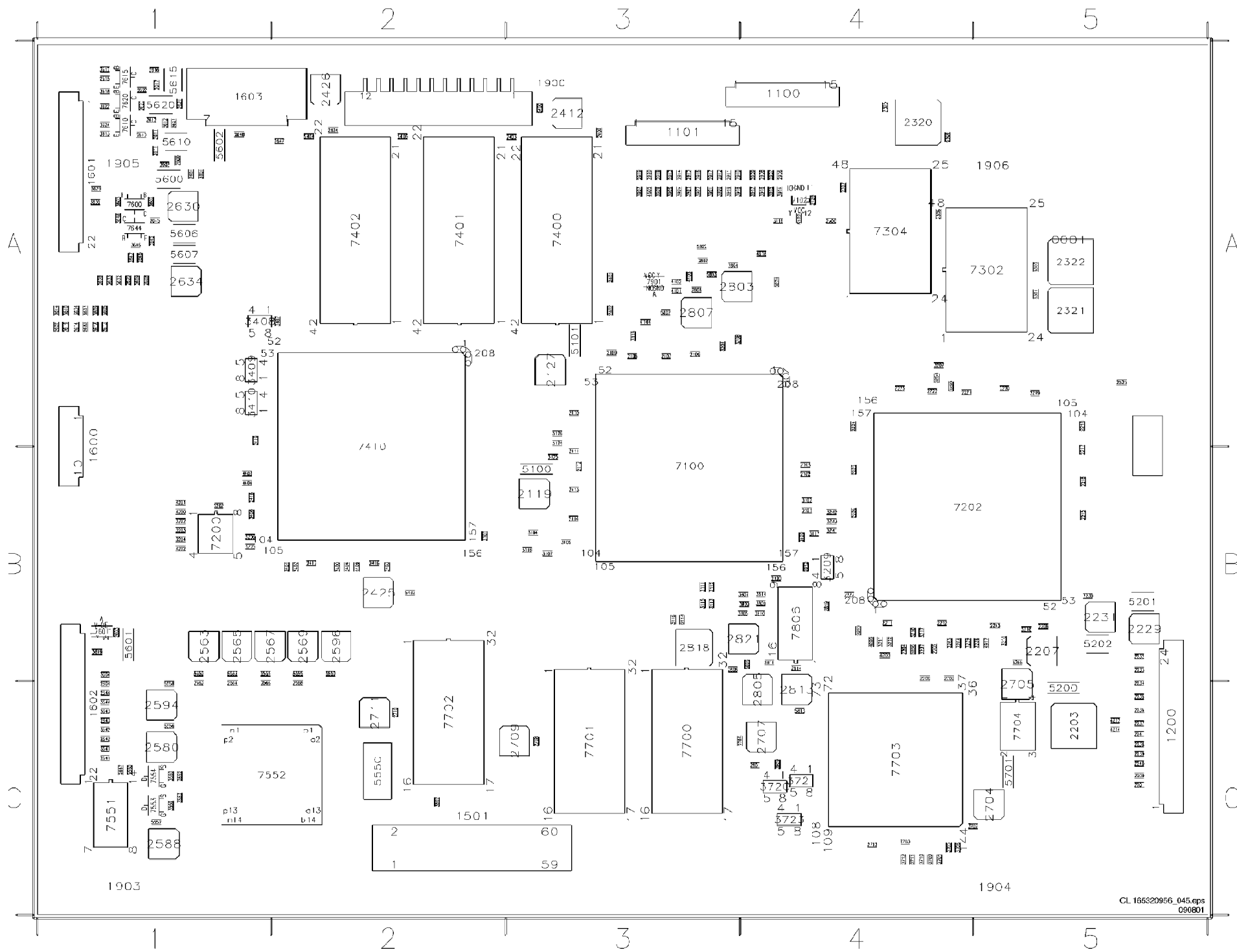


Front DV IN Panel





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1102	A1	2411	C3	3223	B1	7306	D2
1200	A3	2412	C3	3224	A3	7307	D3
1201	A3	2413	C3	3300	B2	7308	D3
1500	B3	2414	C3	3301	C1	7400	C3
1501	A3	2415	C3	3303	C1	7401	D3
2143	B2	2416	D3	3304	C1	7402	D3
2146	C1	2417	C3	3305	C1	7403	D3
2147	B1	2418	C3	3306	C1	7404	C3
2148	B1	2419	D3	3307	C1	7500	A3
2149	B1	2420	D3	3312	C2	7505	A3
2150	B1	2421	D3	3313	B2	7506	A2
2151	B1	2500	A3	3314	C2		
2152	B1	2501	A3	3315	D2		
2153	B1	2502	A3	3316	B2		
2154	C1	2503	C3	3317	D2		
2155	C1	2503	A3	3318	D3		
2156	C1	2504	A3	3319	D3		
2157	C1	2505	D3	3320	C3		
2158	A1	2505	A2	3321	B3		
2159	A1	2506	A2	3322	D2		
2160	A1	2507	A2	3325	B3		
2161	B1	2508	A2	3327	C3		
2162	B1	2509	B3	3328	B2		
2163	A1	2510	B3	3329	C3		
2164	B1	2511	B3	3330	C3		
2165	B1	2512	B3	3400	C3		
2166	B1	2513	B3	3401	B3		
2167	B1	2514	A3	3402	B3		
2168	B1	2515	A3	3403	C3		
2169	B1	2516	A2	3404	C3		
2170	A1	2517	A3	3405	B2		
2171	B1	2518	A2	3502	A3		
2172	A1	2519	A2	3504	A3		
2173	B1	2520	A3	3505	A3		
2174	B1	3100	C1	3506	A3		
2175	A1	3101	C1	3518	A2		
2176	B1	3102	B1	3519	A3		
2177	A1	3104	C1	3520	A3		
2178	A1	3105	B1	3521	A3		
2179	A1	3105	B1	3522	B3		
2180	B1	3106	B1	3523	B3		
2181	A1	3107	B1	3524	B2		
2182	B1	3108	B1	3525	A3		
2183	B1	3109	C1	4111	B2		
2184	B1	3110	C1	4200	B2		
2185	B1	3111	B1	4206	B3		
2186	B1	3112	B2	4207	B3		
2187	B1	3113	B1	4300	C1		
2188	B1	3114	B1	4301	C1		
2189	B2	3115	C1	4302	C1		
2190	A2	3116	A1	4303	C1		
2200	A3	3138	B2	4304	C1		
2201	B2	3148	B1	4500	A3		
2202	B3	3152	B1	4501	A3		
2203	B2	3153	B1	4502	A3		
2204	B2	3154	B1	4503	A3		
2205	A3	3155	B1	5103	C1		
2206	B3	3163	A1	5106	B1		
2207	A3	3164	A1	5107	B2		
2300	C1	3165	A1	5108	B2		
2301	D3	3166	B2	5109	A1		
2302	C3	3167	B1	5110	B1		
2304	D2	3168	B1	5200	B3		
2306	C2	3169	B1	5201	A3		
2307	C2	3170	B1	5300	C2		
2308	C2	3171	B1	5301	D3		
2309	B2	3172	B1	5302	B2		
2310	B2	3173	A1	5303	C3		
2311	B2	3174	B1	5304	C2		
2312	C1	3175	B1	5400	C3		
2313	C1	3176	B1	5401	C3		
2314	C1	3177	A1	5402	C3		
2315	C2	3178	A1	5403	C3		
2316	C2	3179	B1	5404	C3		
2317	C2	3180	A1	5500	A3		
2318	C2	3181	B1	5501	A3		
2319	C2	3182	A1	5502	A2		
2320	C2	3183	B1	5503	A2		
2321	C1	3184	A1	5504	B3		
2322	C1	3185	A1	5505	C3		
2323	C1	3186	B1	7100	B2		
2324	C1	3187	A1	7101	A1		
2325	D1	3188	B1	7103	B1		
2326	D1	3189	B1	7105	B1		
2327	D2	3190	B1	7106	A2		
2328	C2	3191	B1	7200	B2		
2329	D2	3192	C1	7201	B2		
2330	D2	3193	B1	7202	B3		
2331	D2	3194	B1	7203	B3		
2400	B3	3195	B1	7204	B2		
2401	B3	3196	B1	7205	B1		
2402	B3	3197	C1	7207	A3		
2403	B3	3198	C1	7208	B2		
2404	B3	3199	C1	7209	B2		
2405	B3	3201	A3	7300	C1		
2406	C3	3214	B3	7301	D1		
2407	C3	3215	B3	7302	D1		
2408	C3	3216	B3	7303	C2		
2409	C3	3217	B3	7304	C5		



1100 A4	2600 A1	3202 B1	3916
1101 A3	2601 A1	3203 B1	3917
1200 C5	2602 A1	3204 B1	3918
1501 C2	2603 B1	3205 B1	3919
1600 A1	2604 C1	3206 B1	3920
1601 A1	2608 A1	3207 A4	3921
1602 C1	2609 A1	3208 A3	3922
1603 A1	2610 A1	3209 B4	3923
1900 A3	2611 A1	3210 B5	3924
2100 B4	2612 A1	3216 B5	3925
2101 B4	2613 A1	3217 B4	3926
2102 B4	2614 A1	3218 B4	3927
2103 B4	2615 A1	3236 B4	3929
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2107 A3	2617 A1	3238 B5	4102
2108 A3	2618 A1	3239 B4	4103
2109 A3	2619 A1	3241 B4	4104
2110 A3	2620 A1	3242 B4	4200
2111 B3	2621 A1	3243 B4	4201
2112 B3	2622 A1	3250 A4	4202
2113 B3	2628 A1	3251 B4	4203
2114 B3	2629 A1	3252 B4	4206
2119 B3	2630 A1	3253 B4	4212
2127 A3	2633 A1	3254 A4	4214
2128 A4	2634 A1	3263 B4	4403
2200 C5	2637 A1	3264 B4	4404
2201 C5	2641 C1	3268 B5	4405
2202 B1	2642 C1	3274 A4	4605
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2204 B4	2644 C1	3401 B2	4918
2205 B4	2645 A1	3402 B2	5100
2207 B5	2646 A1	3403 B2	5101
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2211 B4	2648 A1	3406 B1	5200
2212 B4	2700 B4	3407 A2	5201
2213 B5	2702 B4	3408 A1	5202
2215 B5	2703 C4	3409 A1	5300
2216 B5	2704 C5	3410 A1	5301
2217 B5	2705 C5	3552 C1	5302
2218 A5	2706 C4	3553 C1	5400
2219 A5	2707 C4	3559 C1	5402
2220 A5	2708 C3	3560 C1	5404
2221 A4	2709 C3	3562 C2	5500
2222 A4	2710 C2	3601 A1	5552
2223 A4	2711 C2	3602 A1	5553
2224 A4	2712 C4	3603 A1	5554
2225 B4	2614 C1	3604 B1	5555
2226 B4	2602 A3	3605 A1	5556
2227 B4	2603 A3	3606 A1	5557
2229 B5	2604 A3	3610 A1	5558
2230 B5	2605 C4	3611 A1	5559
2231 B5	2606 B3	3612 A1	5560
2232 B5	2607 A3	3613 A1	5600
2233 B5	2608 A3	3614 A1	5601
2234 C5	2613 C4	3617 A1	5602
2235 C5	2614 B4	3618 A1	5606
2236 C5	2615 B3	3619 B1	5607
2237 C5	2616 B3	3621 A1	5610
2238 C5	2621 B4	3622 A1	5615
2239 C5	2608 A4	3624 A1	5620
2240 C5	2607 A4	3629 A1	5701
2241 C5	2608 A4	3630 A1	5802
2300 A4	2609 A4	3631 A1	5803
2305 A4	2610 A3	3632 A1	5805
2306 A4	2611 A3	3633 A1	5807
2307 A4	2612 A3	3634 A1	5813
2320 A4	2613 A3	3641 C1	7100
2321 A5	2618 A3	3642 C1	7102
2322 A5	2615 A3	3643 C1	7200
2323 A5	2615 A3	3644 C1	7202
2400 A3	2617 A3	3645 A1	7302
2401 A3	2618 A3	3646 A1	7304
2402 A3	2619 A3	3647 A1	7400
2403 A3	2620 A3	3648 A1	7401
2406 A2	2624 A2	3701 C4	7402
2412 A3	3100 B4	3705 C4	7410
2416 B2	3101 B2	3707 C4	7551
2417 B2	3102 B4	3708 C4	7552
2418 B1	3104 B3	3709 C4	7553
2419 A1	3105 B3	3710 C4	7554
2425 B2	3108 B3	3711 C4	7600
2426 A2	3107 B3	3712 C4	7601
2562 C1	3111 B3	3720 C4	7610
2563 B1	3112 B3	3721 C4	7615
2564 C1	3113 B3	3723 C4	7620
2565 B1	3114 B3	3804 B4	7644
2566 C1	3115 B3	3805 B4	7700
2567 B1	3115 B3	3806 B4	7701
2568 C2	3117 B4	3810 B4	7702
2569 B2	3118 A3	3811 B4	7703
2580 C1	3119 A4	3812 B4	7704
2587 C1	3124 A3	3814 B4	7906
2588 C1	3125 B3	3820 B4	7901
2584 C1	3125 A3	3914 A4	
2586 B2	3201 A3	3915 A4	

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2105	A3	2904	C2	4406	B4
2115	B3	2921	A4	4407	B4
2116	B3	2922	A4	4562	C3
2117	B3	2923	A4	4554	C3
2118	B3	2925	A4	4555	C3
2120	B3	3103	A3	4703	B4
2121	B3	3106	B3	4704	B4
2122	B3	3110	B3	4800	B2
2123	B3	3110	B3	4919	A3
2124	A3	3120	C3	4920	A3
2125	B3	3121	B2	4921	C2
2126	B3	3122	B2	5103	A3
2123	A3	3123	A3	5605	A5
2205	B1	3200	B1	5625	A5
2210	B1	32* 1	B2	5700	C2
2214	B1	32* 2	B1	5801	C2
2228	B1	32* 3	B1	5900	A3
2230	B1	32* 4	B1	5901	A4
2302	A2	32* 5	B1	7101	B3
2303	A2	3221	B2	7103	A3
2304	A2	3240	A2	7300	A2
2308	A2	3267	B1	7301	A2
2309	A2	3269	B1	7305	A1
2310	A2	3270	B1	7306	A2
2311	B2	3272	B1	7307	A1
2312	A2	3273	B1	7403	A4
2313	A2	3304	C2	7602	A5
2314	A1	3305	A1	7606	A5
2315	A1	3405	B4	7625	A5
2316	A1	3554	C5	7800	B3
2317	B1	3555	C4	7801	A3
2318	A1	3556	C5	7802	A3
2319	A1	3557	C5	7803	B2
2404	A4	3558	C5	7900	B2
2405	A4	3561	C5	7913	C2
2406	A4	3564	C5	7916	A3
2408	A4	3506	A5	7917	B2
2409	A4	3507	A5	7918	C2
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2415	B4	3528	A5		
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2562	C5	37* 6	C2		
2571	C5	37* 7	C2		
2572	C5	37* 8	C2		
2573	C5	37* 9	C2		
2574	C5	3722	C2		
2575	C4	3724	C3		
2576	C4	3725	C3		
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2583	C5	3807	B2		
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2589	C5	38* 8	A3		
2590	C5	38* 9	A3		
2591	C4	3900	B2		
2592	C4	3901	B1		
2593	C5	3902	B2		
2594	C4	3903	B2		
2605	A5	3904	B2		
2606	A5	3905	B2		
2607	A5	3906	B2		
2625	A5	3907	B2		
2626	A5	3908	B2		
2627	A5	39* 1	B2		
2701	C2	39* 2	B2		
2713	C2	39	B3		
2805	A5	4100	A3		
2900	B2	4205	B2		
2901	B2	42* 0	C2		
2902	B2	42* 1	B2		



### Layout and Testpoints Progressive Scan Panel

21:00	D1	2111	C2	2123	A1	2135	A2	2147	A1	2159	B2	2184	C1	3108	C1	3120	A2	3132	B2	3154	B2	3169	B1	4000	B1	5111	B2	7105	A1
21:02	A1	2112	C2	2124	C2	2136	A2	2148	D2	2173	C1	2186	D2	3109	C1	3121	C2	3133	B2	3155	D2	3170	C2	4001	B1	5112	B2	7107	C1
21:00	C2	2113	B1	2125	D1	2137	A1	2149	D1	2174	C1	2187	D2	3110	C1	3122	C2	3134	A1	3156	D2	3171	C2	5101	D1	5113	B2	6101	C2
21:01	C1	2114	D1	2126	D1	2138	C2	2150	D1	2175	C1	2188	D1	3111	C1	3123	A1	3135	A2	3157	A1	3172	C2	5102	A2	5114	B2	6102	A1
21:02	C1	2115	A1	2127	A1	2139	C2	2151	B2	2176	C1	3100	D1	3112	C1	3124	C2	3141	A1	3158	B2	3173	C2	5103	A2	5116	D2	6103	A2
21:03	C1	2116	C2	2128	B2	2140	C2	2152	C2	2177	C1	3101	C1	3113	C2	3125	A1	3142	D2	3159	A1	3174	C2	5104	A2	5117	D2	6104	A2
21:04	C1	2117	B2	2129	B2	2141	B2	2153	B1	2178	C1	3102	C1	3114	C2	3126	C2	3143	D2	3160	B1	3175	C2	5105	B1	5118	D2	6105	A1
21:05	C1	2118	A2	2130	A2	2142	B2	2154	B1	2179	C1	3103	D1	3115	C2	3127	B2	3144	A1	3161	B2	3176	C2	5106	A2	5119	C1	6106	A1
21:06	D1	2119	A2	2131	C1	2143	B2	2155	B1	2180	C1	3104	D1	3116	C2	3128	C2	3150	B2	3162	B2	3177	D2	5107	A2	5120	D1	6107	B1
21:07	C2	2120	A2	2132	D2	2144	B2	2156	B2	2181	C1	3105	D1	3117	C2	3129	B2	3151	B2	3164	B2	3178	C2	5108	A2	5121	B1	6108	A1
21:08	D2	2121	A2	2133	B2	2145	B2	2157	B2	2182	C1	3106	C1	3118	A1	3130	C2	3152	B2	3167	A1	3179	C2	5109	B2	5122	B2	6109	A2
21:09	C2	2122	D2	2134	A2	2146	B2	2158	D1	2183	C1	3107	C1	3119	C2	3131	C2	3153	B2	3168	A1	3180	D1	5110	B1	5123	B2	6110	A1

